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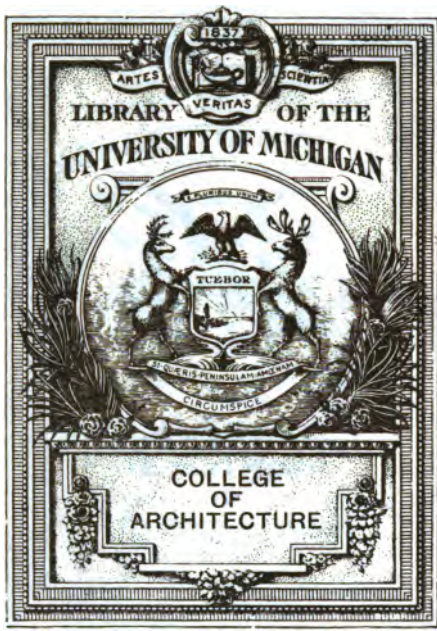
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THE MAKING OF  
PATTERNS



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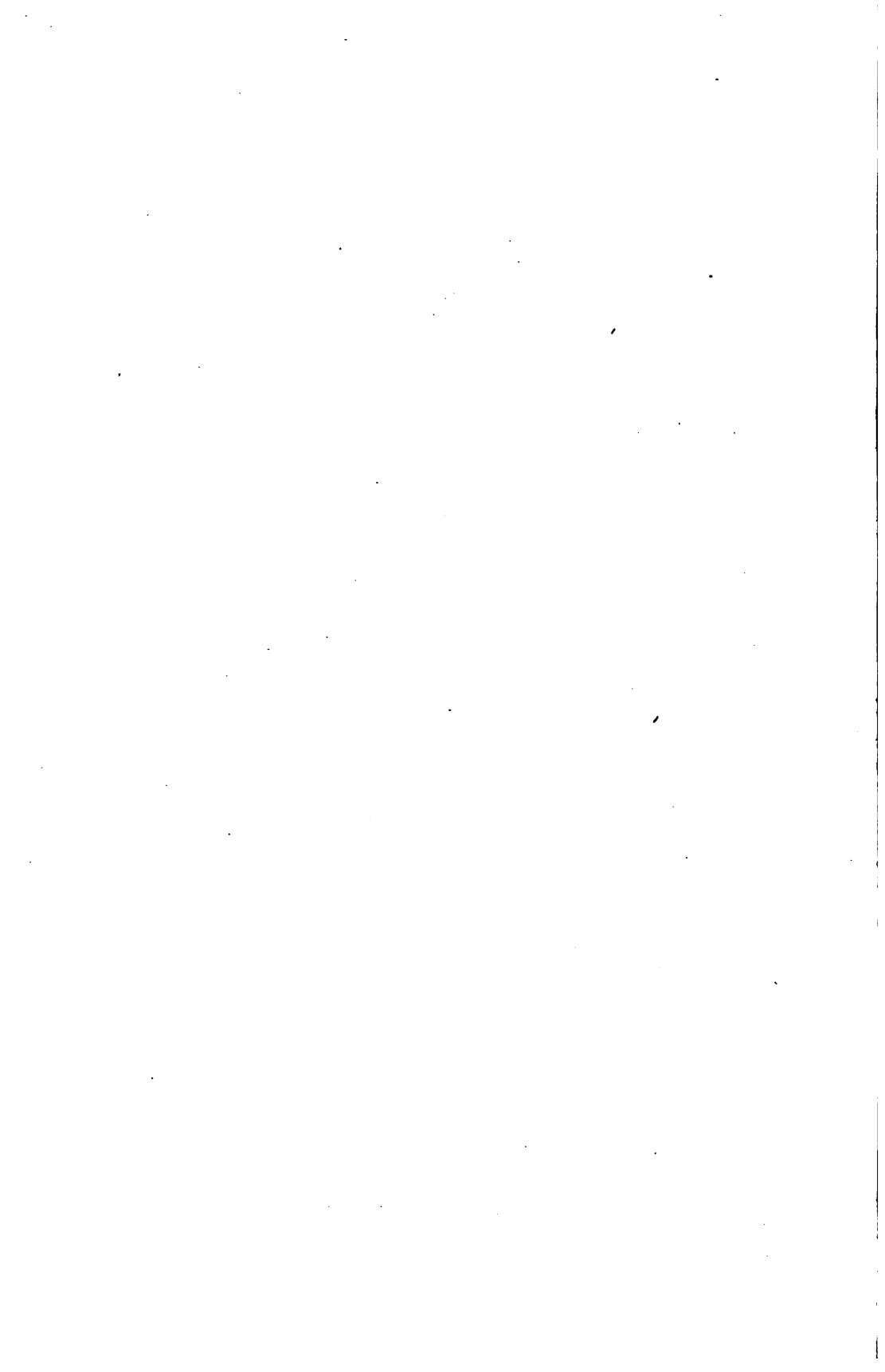


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# DESIGN



# DESIGN

AN EXPOSITION OF  
THE PRINCIPLES AND PRACTICE  
OF THE MAKING OF PATTERNS

BY  
RICHARD G. HATTON

AUTHOR OF

'FIGURE DRAWING AND COMPOSITION' AND 'PERSPECTIVE FOR ART STUDENTS'

WITH 177 ILLUSTRATIONS

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## PREFACE

THERE is at present a strong desire among persons of taste for plain objects, for objects devoid of complication of form, although beautiful in shape, delicate in proportion, and good in colour. Such a demand as this excludes decoration, or ornament, as an unnecessary addition, as much on the score of beauty as for any other reason. It is quite true that decoration is unnecessary. Beautiful objects can be made without it. A line or two scratched on, or painted on, in order to create a better proportion, or a line running round the edges, is all that, for beauty's sake, need be asked for.

But simultaneously with the rise of a demand for plain objects of good form and colour has arisen a deeper regard for pattern. That patterns are a rhythmical form of Art, with a justification of their own, is now admitted. Some have not hesitated to ascribe to them a deeper, more mystical, and more symbolic, significance than pictorial Art can itself claim. With this higher significance patterns can, when worthy of the distinction, be very well associated with the extensive plain surfaces now more and more coming into vogue.

Isolated, because of its significance, the pattern may no longer be a mere association of forms lacking discordance, or otherwise inoffensive. Every form chosen for use, every detail of arrangement, must be

## PREFACE

selected in accordance with a prevailing mood or conception. The vulgar can never decorate because their perceptions are vicious, and their choice erroneous. But the choice exercised by a man of delicate perception in selecting and arranging his material, will endow with a special beauty any work of utility he touches. While tastefully accentuating the object's form, he adds to it in such a way that it becomes more than a mere utensil. The artist expresses himself in the choice he makes.

Lifted thus into a rather more exalted region, the works of the decorator become more definitely works of Art. They should always have the most delicate touch. However strong and passionate the motives they reveal may be, they should rather win their way with the beholder than force themselves upon his attention. Their delicate touch should be something like that of music—

“That softer on the spirit lies  
Than tired eyelids upon tired eyes.”

Such qualities are, however, not to be obtained by rule or precept. All that rule and precept can do is to show beginners what others have found it wise to do.

The present work is an exposition of those principles which it is wise to follow in the designing of patterns. To have said much upon the designing of plain objects, or upon the adaptation of patterns to material, would have necessitated the expansion of the book beyond present possibilities.

The author wishes to acknowledge his indebtedness to Mr. C. W. Mitchell, who has placed in his hands many of the examples illustrated.

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# DESIGN

## I

### THE DESIGNER AND HIS TASK

A DESIGNER is one who arranges the form of an object. He has to consider the use to which it is to be applied, the material of which it is to be made, and the appearance of it when completed.

In carrying out this work he finds he uses capabilities which he did not expect to use, and produces results beyond those for the attainment of which he set out.

He finds for instance that the forms he creates have often significance, as if they were not so much parts of an object as words in a story. He cannot prevent shapes which have meaning occurring in his work, nor can he omit to notice when the forms appear unusually pleasing. Involuntarily he modifies or adds, to his plan in obedience to an inborn desire to endow his work with such qualities as he finds himself able to give it.

## DESIGN

He finds himself able, that is, to give the form a degree of beauty which is not merely attributable to the observance of the demands of utility, but which is to be accounted for only by assuming that the beautiful supplies a demand of the mind or eye. It is idle to speculate upon the value of beauty, or to give philosophical reasons for it. Those who will not accept it must be left unsatisfied. Those who are devoted to it, will not strengthen their regard by trying to account for it.

Nor again is it profitable to discuss the nature and constitution of beauty, as if one could analyze its qualities, and reduce it to a code of laws. We are on safer ground if we dismiss the general question, and think only of beautiful things. We do know that the observance of certain laws and principles helps the production of beautiful things, or shall we say of satisfactory things, leaving all questions of beauty alone, and merely trusting to its being evident when the work is done.

Descending thus to a lower level we may substitute the word personality for beauty. If our object has its parts, its use, its construction, its decorative additions, so adjusted to one another that in no sense is any of them either forgotten or made too much of, we may truly say it has individuality or personality.

To gain this quality for our object we have only to think and think again of the several parts of which it is composed. If the draughtsman will keep

## THE DESIGNER AND HIS TASK

his drawing all going at the same time, so that he does not permit his attention to settle too long on one part, he will not fail to give his design the unity he desires it to have. Simple and even trite as is this rule, it is the foundation of all success in designing. It amounts to grasping the whole situation, and to do that is not easy. It is much less trouble to do things a bit at a time ;—so that in designing, as in most matters, it is the power of taking pains which is most to be desired.

To observe equally, then, all the various elements of which the object is composed, to attend at one and the same time to all the various conditions that can bear upon it, is to maintain an equipoise among distracting considerations which is not readily developed.

What then are these considerations among which we have to maintain our equilibrium ?

There is the **USE** to which the object is to be put.

There is the **MATERIAL** and the fitting construction employed.

And there is the care for the **PERSONALITY**, which may involve little or no change from the conditions imposed by utility, material and construction, or which may demand some or even considerable addition.

Then if additions are allowed, there is the possible significance, or **IDENTITY**, of the forms employed. Indeed the door is opened to almost endless artistic expression. How difficult becomes the task of remembering utility and material when some high



## DESIGN

flight of the imagination is permitted, or realism is attempted, must be evident to any one who can grasp unity at all, and who can see the value of the subordination of the parts or details to the whole.

The student must first of all think out the conditions which govern, and necessarily govern, the



FIG. 1.—Silver case for holding a copy of the Koran. Persian, green, blue and ochre enamels and red stones. The decoration is a chequer pattern. It is to the substitution of the circle for the quatrefoil in the central square that the unity of the object is largely due.

different kinds of art. He will never produce satisfactory designs so long as he does not recognize that imitative art does not necessarily include what we call style and arrangement. Symmetry, for instance, does not advance the imitative quality of imitation. Imitative art may be all the better with some measure of symmetry or other rhythmical quality, but it is not the imitative part of it that is improved. Students

## RHYTHM NOT IMITATIVE

will, indeed, be ready enough to recognize this, for it takes an absence rather than a presence of taste to neglect rhythmic quality. If the student grasps the fundamental character of imitative art, freed thus from rhythm, let him apply such an imitative art to an object. If he then is content with the unsymmetrical though perfectly true-to-life decoration he has produced, his mind must be singularly incapable of appreciating the form of the object he is decorating. To forget it, and ignore it, so completely, that any kind of painting can be applied to it without offence to his eye is surely evidence of mere mental incapacity ; or it is proof of a capacity to observe one quality or part of an object at a time, which is the very inversion of the artistic method.

The matter is of course complicated by the presence of the less symmetrical but yet equally rhythmic styles of ornamentation. The Japanese ornament, as in Fig. 41, is definitely a hindrance rather than a help to students. The absence in it of obvious rhythmical method suggests to them that arrangement is a matter of little importance, and that decoration is a kind of imitation.

But these seemingly casually composed decorations are the result of the most fastidious adjustment, which only the highly-trained can produce. In this work taste alone is the guide, rules there are none ; but the taste can only be acquired by passing from the obvious to the less obvious. Symmetry and

## DESIGN

repetition are the characteristics of the most obvious rhythm, and the student must not only master them, but must learn to appreciate them. But while this training is necessary, it is not to be supposed that it

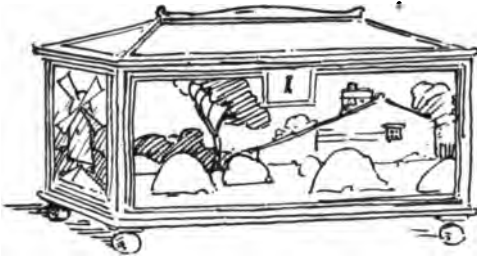


FIG. 2.—A casket, with landscape decoration.

is a passing from lower to higher, it is merely a passing from more obvious to less obvious rhythmical arrangement, accompanied by a

passing usually from forms of little significance to forms of greater.

Hence the Persian Koran case, Fig. 1, is not of a low form of art, nor is the casket of Fig. 2 of a higher. To many the style of Fig. 1 will be preferable to that of Fig. 2. While it loses in the significance or interest of detail, it gains in the rich simplicity of its melody. It has, that is to say, the same quality as architecture, and the quality of architecture is not imitative, but purely rhythmical.

When one designs decoration of an irregular, or even of a regular character, the forms, spaces and masses should be emphasized by flowing, bold outlines as is done in Fig. 3, which is a mass drawing of Fig. 4. Indeed it is hardly too much to say that if the student will—

## CONCENTRATING THE FORMS

First, plan out his main lines on an obvious rhythmical plan, say symmetrically;



FIG. 3.—The masses of a design emphasized and rendered simple by "pooling."

Second, keep all his drawing going at the same time, and neglect no part of it ; and  
Third, "pool" his masses as in Fig. 3, he can hardly fail to make a good design.



FIG. 4.—A design toned according to the results obtained by Fig. 3.

## II

# OF UTILITY, MATERIAL, AND CONSTRUCTION

BECAUSE the higher, as they are called, or more artistic elements of a design require a special kind of ability in the draughtsman, the draughtsman knowing he has this ability, is prone to regard these more exalted matters as his particular province, and usually looks down upon that scheming and contriving which secures utility, as a mean occupation.

Such a neglect will jeopardize the unity of the object.

In neglecting utility the designer is not only leaving undone something he should do, but is throwing away one of his means of artistic expression. For it is not too much to say that the utility of the object provides a kind of subject. To frame and fit the form so that usefulness shall be at its maximum, is to consider the habits and manners of the users. To make things serviceable, and to look serviceable, one must enter very sympathetically into the details and incidents of life. One must be to some extent a

## USEFUL OBJECTS INTERESTING

humorist, finding good-natured pleasure in observing the bodily necessities and obvious habits of men. Latches and handles must fit the hand, and whatever mechanism there is must be so arranged that it can comfortably be used. No excuse of beauty of form may interfere with such considerations as these, and, indeed, beauty is more likely to attend upon utility than upon its neglect.

An obviously useful or usable object suggests incidents of daily life, and to suggest incidents of daily life is to tell some kind of story. From this point of view how sterile and stupid become the show-pieces of the later Renaissance beside the charmingly human objects of, say, Anglo-Saxon times. No monument of mere patient labour, without some service or other, can give us a story worth the listening. Too often these show-pieces are quite unilluminated by any human suggestion in their details, and so lack story in both ways.

Of course it could be plausibly argued that the function of art were to raise the object above the vulgarity of its use into a refined atmosphere of idea. The tailor does his best to make his customers conform to that ideal of manly gentility exhibited in the fashion-plates, and must with disgust behold, in well-worn clothes, the impress of the, to him, contemptible bodily existence of the wearer.

It is true that the ideal cannot embrace the humorous, but that is because the ideal deals with

## DESIGN

types while the humorous deals with the personal and individual. The ideal does not, however, seek to obliterate the natural habits and necessities of man, as does flunkeyism ; it merely substitutes the general for the particular.

The student will be advised, therefore, to always locate his objects in some environment in which he can see them in use, and so get thoroughly in sympathy with the purposes they serve. To design

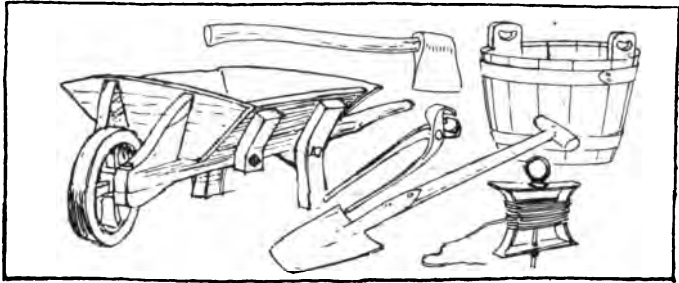


FIG. 5.—Some objects of utility.

humanly a designer must be something of an inventor, must be one continually endeavouring to satisfy human needs.

The examples given in Fig. 5 are all without any pretension to beauty. They are merely serviceable objects, and are interesting because their forms suggest, and indeed indicate, human labour and the stubbornness and utility of natural materials. Whether the beauty, whatever its degree, which these objects

## BEAUTY A BALANCE OF FORCES

possess, is due to a delicate adjustment of as much material as is needed, to the stresses of natural forces, is a question which need not be determined. Such a reason might plausibly be given for beauty, and in such a contention most natural objects would seem appropriate evidence. We are not indeed surprised to find stem, stalk, and leaf formed of such material, and in such proportion, as befits the plant's battle with the force of gravitation and power of the elements. And we might plausibly argue that any excess of material over the demand, or insufficiency of material to the demand made by the play of forces must end in diminished interest and diminished beauty.

If the material be considered and a manner of construction adopted in sympathy with it, a quality is given to the object which cannot but afford satisfaction to a sensitive person. Sound material is a pleasure to behold, and the right use of it affords equal pleasure.

There is a theory of form which holds that there is an ideal shape, as, for example, the classic orders of architecture, and that it is better for the character of material to be lost than for this ideal form to be abandoned. This specious doctrine owes what little force it has to the natural neglect of the fact that though the orders exist, and are capable of somewhat rigid description, they varied sufficiently when expressed in different materials for the materials to



## DESIGN

give the character to the work. It is true there are plenty of instances in the late Renaissance of the confusion of materials and the adoration of fixed dimensions for the orders, but we are not likely to go to that period for examples of taste.

Construction necessarily includes the calculation of weight, strength, thrust and equipoise, in brief, the engineering of the work.

And the consideration of utility, material, and the



FIG. 6.—Part of a cabinet, *c.* 1580 (Vic. and Alb. Mus.).

laws of construction and stability may alone yield us sometimes beautiful objects. Of this there are no better instances than ordinary wagons and carts. The cartwright's craft seems to be one of the last to give up its good traditions. The curved lines of shafts, wheels and body, the notchings and bevellings seem all to be the result of careful calculations to obtain strength and lightness, and not to be at all

mere ornamentation.

In Fig. 6 we have an example of obedience to an accepted canon of form. Columns and entablatures proper to buildings of stone are imposed upon an object made of wood, and of which the construction is hidden.

## FORMS DUE TO CONSTRUCTION

In Fig. 7 are examples of the contrary. A shows a chest of wood framed with mortice and tenon joints, the construction supplying the pattern. In B and D also, the material, and its use in a frank

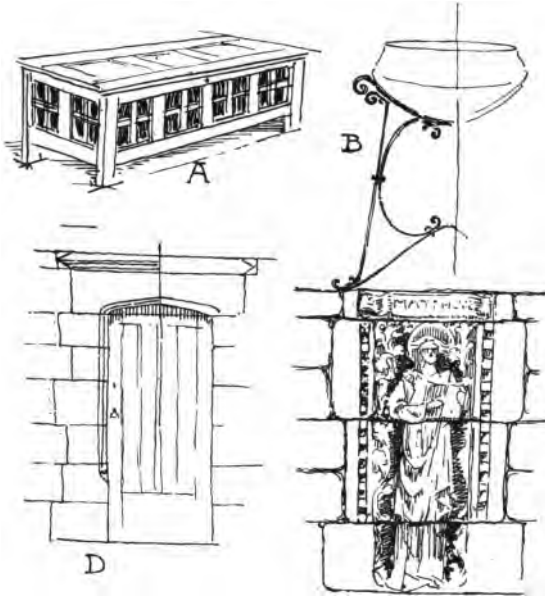


FIG. 7.—Examples of beauty arising in objects from the frank acceptance of material and construction.

structural manner, provide the elements of the decoration.

In the last example the different parts of the figure are made to terminate with the stones.

### III

## OF THE UNITY OR PERSON- ALITY OF THE OBJECT

WHEN utility, material and construction have all been fully considered, the form may be such as is sufficiently united or personal not to require any modification or addition. This was seen to be the case with the wagons and carts.

But generally some improvement is found to be possible by the addition of lines or bands of tone, to omit for the present all thought of more elaborate or important additions.

These lines modify the proportions and add emphasis.

Are these additions, slight and trivial as they are, the response to a desire for a richer effect, or are they merely a finishing of the object? Even if they are only finishings, why should we want them?

In Fig. 8 we have an object of the very simplest character. The single band of ornament is most successfully placed. Owing to the peculiar and beautiful curve of the jar, the band must occur at

## PERSONALITY, HOW SECURED

a certain place. If the shape expanded instead of contracted below the band would have to be moved, probably raised. The grooving of the handles is also very important.

In Fig. 9, the personality is raised considerably, by apparently two methods. The lower part is diapered with a pattern composed of figures, dogs, etc.—a hunting scene. A diaper pattern must always have the effect of additional gorgeousness, for in its nature it belongs neither to

the material nor to the construction—it contributes to neither. Sometimes the decoration appears to add strength, or toughness, as do the vertical lines on a column, or becomes bands which bind the object together as in Fig. 8; but a diaper does neither. In the second place, the type of ornament tends towards raising the stamp of the personality.

The corbel in Fig. 10 is an instance wherein the personality is secured by fluctuations of form. Instead of appearing to be three pieces of wood it is—a corbel, a separate individual thing.

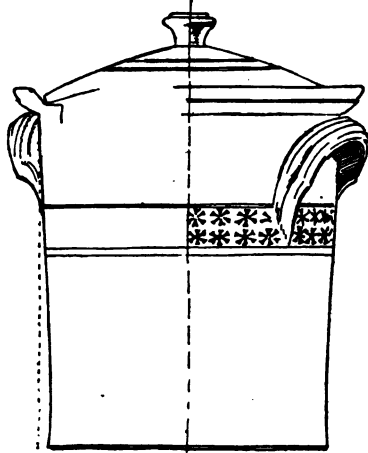


FIG. 8.—A stew-jar. Personality gained by lines and a simple ornament.

## DESIGN

Our object may thus be complete with but a few lines, and its personality may be secured. It is probable that any object could be completed in this simple manner, and that the demand for personality could thus readily be satisfied.

By greater elaboration of decoration the personality can be raised, in degree. This development does not



FIG. 9.—A jug.

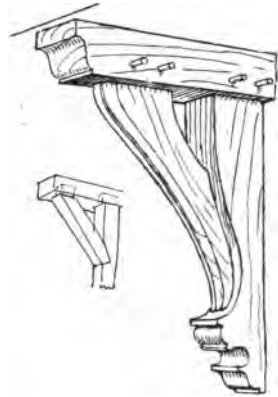


FIG. 10.—A corbel (English, c. 1450).

necessarily involve the obliteration of the evidence of utility, and with utility itself it certainly must not interfere. *The decoration must follow and confirm the construction, it must not itself be the construction*, for if it be not accordant with the construction it must to some extent appear opposed to it, and will set up a discordance which will ruin the personality. But if the elaboration proceed upon the lines determined

## PERSONALITY ENDANGERED

by the conditions imposed by use and construction no such discordance can arise.

It has already been pointed out that neglect of utility endangers the personality. The departure from the simple needs of the case toward elaborate construction and ornamental construction, commenced in the fourteenth century. Hundreds of little forms crowded the structure, yet the main idea remained much the same as in the simpler styles. When the Renaissance came classic details were engrafted upon Gothic structure, and a severe style prevailed for a while. An example is seen in the cinque-cento vase, Fig. 21. But possibly, owing to the absence of classic models in the design of common things, and to the gradually rising domination of the ancient architectural forms—the sole representatives of the art of their day—the proper treatment of wood and metal got lost sight of. For all constructive form, other than architectural, there were no precedents, and so objects became more and more built up of acanthus foliage, figures and vase-forms. Of such work Figs. 11 and 12 are examples. In both cases, however, personality is maintained, and the works are not the hybrid jumbles one might expect them to be. Though the knocker has no structure independent of its ornament, it is very evidently a knocker. The right or wrong always depends on the manner of treatment, and in these cases there is undoubted success where less able hands would certainly fail.

## DESIGN

This knocker is doubtless so interesting as sculpture that one is tempted to say it is too sculptural to be a good example of decorative art. To say that, would be to apply mechanical rules of criticism and to condemn an object which certainly declares its use



FIG. 11.—Ornament on lid of Jane Seymour's cup, by Holbein, A.D. 1536.



FIG. 12.—Bronze knocker, c. 1570 (Vic. and Alb. Mus.).

as much as the ring-knockers of Gothic times. Nevertheless it undoubtedly cannot be described as a "useful object, decorated," and the production of "useful objects, decorated," should be the aim of the student. Again, however, one has to safeguard against mistake. The ornament should always seem

## STRUCTURE AND ORNAMENT

so integral a part of the object that we are not tantalized with the feeling that the object was once plain, and has had the decoration applied to it as an after-thought. The best rule for the student, therefore, is that the ornament should follow and confirm the structure, and acquiesce in its arrangement.

The wood-work and iron-work of the later Renaissance, say about 1700, has often a happy combination of construction and decoration. The mirror seen in Fig. 13 is getting too far from the constructive, but in many works of the time a very sound construction exists where the lines of the design are so free and independent as to lead us to expect the opposite.

Throughout the work the designer will find a certain suggestiveness attaches to the forms he draws, whether forms intended to be merely structural or to be intellectual additions. He will find that the object



FIG. 13.—Carved wood mirror-frame,  
c. 1700.



## DESIGN

has, as it were, a power to metamorphose, or change, or give peculiar significance to the shapes he applies upon it, so that a rose if applied to or upon an object as part of its decoration loses its natural form and takes a conventional, as if the stress of architectural conditions will not permit the form to approach more nearly to the natural.

## IV

### SUGGESTIVENESS IN SHAPES

AT the very outset, when we draw the shape of our object, we find attention must be paid to its suggestiveness. The suggestions are of two kinds. Either they are concerned with stability and laws of pressure, or mimic other things quite foreign to the subject.

Taste commonly is adverse to the similarity of an object to another object of a different class, as of a jug to a fruit or an animal. Instances of the violation of this law of taste are to be found among the works of all periods. Laws of art are, it has been said, for the incompetent, or rather, only the competent can break laws and yet be excused.

The suggestion of stability is however a more tangible business, and one upon which definite instruction can be given. Broadly, forms can be arranged in two classes—the Dynamic and the Static. Dynamic forms are those which suggest innate strength or power. Static forms are those which suggest that they are succumbing to the force of

## DESIGN

gravitation. Examples of both are given in the diagrams. A vertical form, especially if it expand above, is dynamic in character ; a horizontal form, especially if expanded below, is static. Static forms suggest weight and immovability, dynamic forms equilibrium and lightness. Or again, static forms suggest repose, and dynamic forms, alertness.

The same laws hold with regard to lines radiating from a centre, and lines at right angles to them. The points of a star are dynamic lines from its centre, and in like manner all radiating lines have a dynamic character. Hence radiation suggests growth, which is the outward pushing of force from its base. Lines at right angles to radiating lines are static. They tend to revert the growth to its base, and to check its progress. Consequently they steady the outward push of the dynamic lines and secure repose. This rectangular arrangement is one of the most important in decoration. Of all dynamic and static lines the chief are, however, the vertical and horizontal. These are the true architectural lines, the true symbols of stability. It is not too much to say that they are the most important lines in design, and that they or any suggestion of them can practically always be included with advantage both in general scheme and in detail.

It may be here noted that if the vertical and horizontal are the true architectural lines, and the upright rectangle the true architectural form, then

## DYNAMIC AND STATIC FORMS

those forms which we see in architecture which cannot be so classed, but which are still of a firm and practical character, may rank as *sub-architectural*. Such are the circle, the pointed arch, and pedimental (triangular) forms. These cannot exist without the vertical and horizontal to support them. *Hence the*

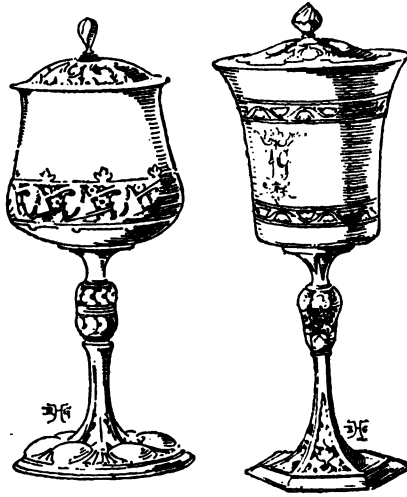


FIG. 14.—Static and dynamic.

*designer must always start his design, no matter of what kind, with the architectural lines, then work in his sub-architectural, and finally permit himself all his fancy dictates. If this order be followed, the light and fanciful will be properly supported by the firm and stable.*

In Fig. 19 we have a star-like form which has

## DESIGN

dynamic lines radiating from its centre, the circle being static to them. Such forms theoretically are specially suitable for horizontal surfaces because there is no "wrong way up," they can be looked at from



FIG. 15.—The dynamic and static character of the male and female figures.

any position without appearing to be upside down. This theoretic law can easily be overdone. In fact, while logically the law is reasonable enough, and readily gains acceptance in actual practice, it is not altogether

## PATTERNS FOR PLATES, ETC.

advantageous. The reason for this is that if part of the design is upright from any position, there must always be a great deal which is not upright. Moreover, the arrangement around a centre necessarily makes the forms small.

The law must instead be, that the pattern on a horizontal, or lying, surface, must not be such as compels the spectator to go to one end of it, making him uncomfortable if he does not. At the same time it is by no means necessary that the decoration should not spread from a root at one end toward the other.

Many of the best plate designs—as the willow-pattern to mention but one—are good when viewed all round, and yet have a distinct “way up.” On small surfaces, such as plates, figures are not out of



FIG. 16.—Effect of the static and dynamic treatment of the same object.

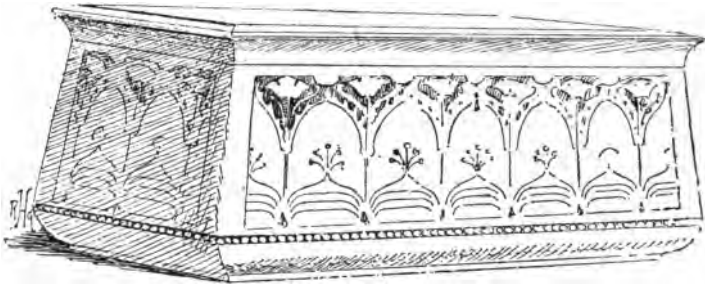


FIG. 17.—A chest. (Expression of weight, but also of movability.)

## DESIGN

place, the area being too small to make the spectator feel he is in a wrong position, moreover the movable nature of a plate suggests that one can readily turn it round to look at it if one wishes to do so.

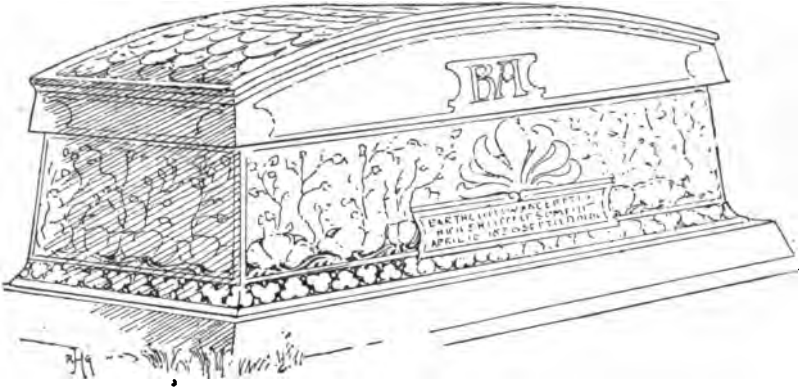


FIG. 18.—A tomb. (Expression of weight and immovability.)

Some objects of a round nature, as an ink-pot with a lid, have a degree of front and back, and any

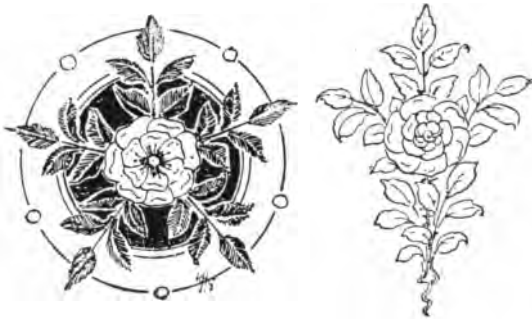


FIG. 19.—An ornament for a horizontal surface, and another for a vertical surface.

## ELABORATE PART AT THE TOP

design on the lid or the broad flange below (if it have such), can be decorated as if viewed more or less from one point of view. All these cases are, however, matters of taste—not of individual opinion, but matters in which artistic discrimination has to decide what is, or is not, to be done.

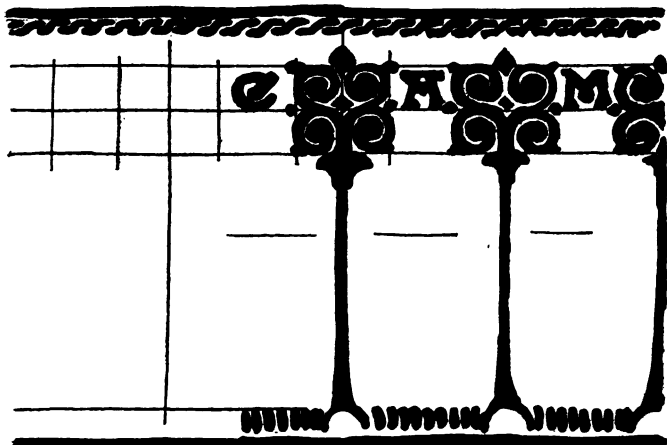


FIG. 20.—The effect of the architectural lines. The noblest part at or near the top.

As a rule the noblest part of a design occurs above the middle—toward the top. This observance of dynamic law is very general, and instances of it are very numerous. If a band of lettering is to run across a plain space it should be placed higher than the middle.

A notable instance is seen in the placing of Gothic



## DESIGN

tracery high in the window ; certainly in the worst position for lighting, and the best for effect.

The middle of a vertical dimension has no artistic value. Artistically speaking the middle is the heart or core or nucleus, and few designers will place the nucleus at the middle of an upright form.

Such, then, are the considerations which follow the suggestion of gravitation or buoyancy which forms, for some reason or other, possess. We have seen that not only are objects and forms affected by this inherent suggestiveness, but that the expression of growth, and we might say, to some extent, of motion, is due to the same cause.

We now turn to that kind of suggestiveness which gives forms **IDENTITY**. Nondescript shapes must never be used. There is something unsatisfactory about them ; the mind cannot dwell upon them, and turns from them as unworthy of attention. A little consideration shows us that shapes must either suggest **THINGS**, as leaves, flowers, stalks, animals, ships, or be obvious **GEOMETRICAL** figures, as circles, hexagons, etc., or be **INTERLACINGS**, like Celtic patterns—knots ; or be forms to which meaning is, or has become, attached, **SYMBOLS**, as a cross, a heart, lettering, etc.

## V

### GEOMETRICAL FORMS

THE degree to which geometrical measurements should be employed is to be determined, and only determined, by feeling. Before feeling can be exercised there must be in the mind an idea of the character of the object to be formed. This idea is indeed the personality. If the designer cannot conceive some motive, some distinctive tone, as dominating his object, he cannot successfully proceed with his work. For designing cannot be done by rule alone, and what is there to guide feeling if no general conception of the object's characteristics exists?

Hence, whether equal divisions, equal spaces, or other geometrical arrangements be adopted can only be determined by the needs of the case. Sometimes rigid measurement, or systematical planning, are imperative, sometimes they are not. In a word there is no virtue in geometry apart from its supplying certain needs—from its application.

Geometrical form is the result of forces acting in equilibrium. The regularity of a star-form is described geometrically, and its regularity is due to the

## DESIGN

several divergent forces being equal in intensity and uniform in expansion. Geometrical forms are then indicative of, and arise from, stability and equilibrium.

It cannot be doubted that certain forms are interesting merely because they *are* geometrical. These forms are the square, the circle, the pentagon, the hexagon, the octagon.

The same geometrical forms when treated in band form become particularly useful, especially when interlaced, as when two triangles or squares are superimposed and form stars.

All these forms again may be further developed by their sides being made somewhat convex or concave.

Of all, however, the square and the circle are the most valuable, probably because of their architectural character. To let the geometrical arrangement run to squareness or roundness is always advantageous—of course “squareness” and “roundness” do not mean absolute equality of side or radius.

Let it be noted carefully that the architectural condition is distinctly that of stability, which again implies fixed position and permanent location. Architectural forms, therefore, do not suggest movement, and the same can be said of the geometrical.

Since all objects are, in a way, built or constructed, they partake of the character of architecture and therefore become geometrical in their main disposition.

## QUIETNESS AND WILDNESS

This geometrical disposition must be attended to at the very start of the work. Just as, as Oliver Wendell Holmes says, it is pleasanter for a day to begin chilly and become warmer a degree than for it to begin warm and grow cooler, so it is safer and sounder for the object to begin with the frozen rigidity of its geometrical disposition and become



FIG. 21.—A cinque-cento vase.



FIG. 22.—A Louis Quatorze vase.

softer, than for it to begin loose and free and to have the chilling geometry superadded. There can, therefore, be no doubt that the geometrical part of the designing should be attended to early.

In the three vases illustrated in Figs. 21, 22 and 23 the stress of geometry in the main design is seen. The cinque-cento vase, Fig. 21, is severely but not rigidly geometrical. The ornaments, for instance,

## DESIGN

have not their repeats rigidly beneath one another, in fact the number of repeats is not the same in all. The main form reverts both in neck and body to the vertical, adding a solemn strength to the object, which moreover is not lacking in gracefulness.

The lines of Fig. 22 are in comparison wildly boisterous. There is doubtless much skill in the design, and it cannot be said that the lines are not



FIG. 23.—A Louis Seize vase.

harmoniously arranged, but the energy so unmistakably expressed runs out of bounds. Probably the designer expected the vase to be used with a vertical architectural setting, such as it would have if placed on a console or in a recess in the

pompous interior decoration of its day. The curved lines necessary to complete the scheme in such architecture were frequently obtained in violently formed vases, which ought, therefore, rather to be taken with, and only with, their settings and not isolated.

To the other extreme belongs the Louis Seize vase, Fig. 23. With all its elegance and the harmony of its proportions it is frozen hard. The geometrical arrangement is in this case not made for any reason of stability, or to secure an architectural feeling in the object, it is merely an assertion of order for order's

## REGULARITY, PERMANENCE

sake, and a punctilious observation of an easily learnt law. One feels one wants to turn this vase round to get to the interesting part, or to a plain part, to anything in fact but those regular divisions.

How much regularity must there then be in a design? This will depend chiefly on the degree of permanence to be suggested. The degree of permanence will be determined by such conditions as the object's location—whether fixed or liable to change; by its character as an object, whether, that is, it is lightly or solidly constructed or of fragile material.

The safest rule is to begin with a considerable degree of geometrical arrangement and lose it if the loss can be borne. One would, let us say, stripe the object horizontally or vertically, obtaining a kind of panelling by the process. These lines should be only faint, and merely used as suggestions, or because of their being possible as suggestions. Very often they will be found to afford a skeleton from which to develop the object. In fact their chief value lies in their forcing upon one's attention the architectural forces inherent in the object; for this impression will remain even if the striped drawing be abandoned and the design commenced afresh. The examples in chapter XXI show this advice put forward as a system of practical designing.

Of all geometrical arrangements the *symmetrical* is the most valuable, though often not appreciated.

## DESIGN

The term is commonly held to mean that a form divisible vertically by a central line has its two sides precisely alike. Such a form is obtained, as in Fig. 25, by folding a wet drawing. This process of

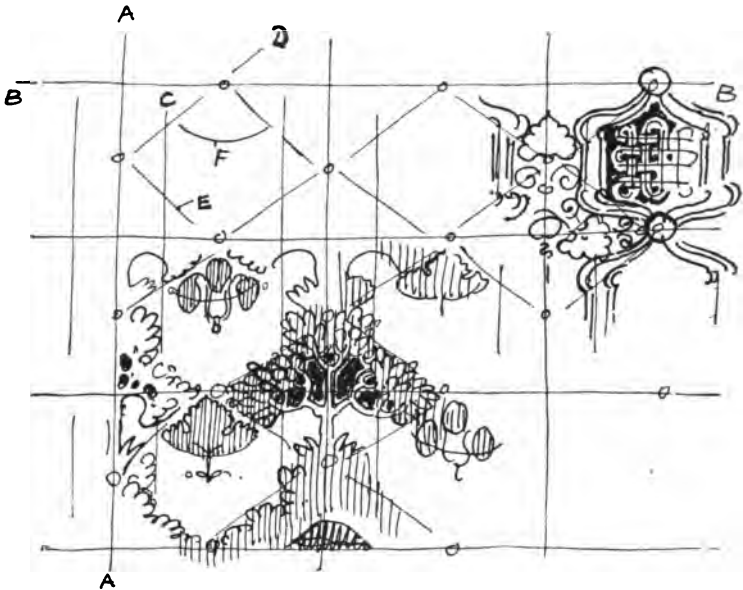


FIG. 24.—Faint geometrical planning scored on the design.

reversal and repetition gives the ornamentalist many valuable elements. In the first place horizontal lines are suggested by the repetition on either side of the several more prominent parts of the form—and horizontal lines are always welcome. In the second place combinations of line and peculiar spaces are

## VALUE OF SYMMETRY

produced which had no place whatever in the original form. It is hardly too much to say that good designs can practically always be got, and certainly can readily be got by reversed repetition. The patterns in Fig. 69, where simple lines are reversed and repeated sufficiently indicates this. It is not wise, however, for a student to design one side of, say, a panel, and trace it down upon the other, because the middle is liable to be neglected and there is not always an adequate bonding between the two sides. If that be attended to, however, there is no reason why the process should not be employed.



FIG. 25.—Effect of symmetry.

Beside, however, being evidences of stability, geometrical forms have a degree of intellectual interest which must not be lost sight of. Indeed much use is and has been made of geometrical forms for this quality. The most noticeable instances are those Moorish patterns in which the lines do not run horizontally and vertically. For where the lines are horizontal and vertical, the use of the pattern is to be accounted for rather on the ground of the directions of the lines giving an idea of stability.



## VI

### SUGGESTIONS OF MOVEMENT

IF geometrical forms are the result of forces acting in equilibrium, then if the equilibrium be disturbed, forms will be produced which suggest movement. Or it may be put that the geometrical forms of which we most readily think are connected with such simple conditions that they have a stationary character, whereas the complex geometrical forms suggest their domination by shifting points or foci. From circle to ellipse, parabola, hyperbola, cycloid, and trochoid, is a definite change from location to movement.

We may state it as an axiom, therefore, that the rigidly geometrical is on the side of stability or location, while departure from the geometrical is a departure toward movement.

Left by itself this statement might imply that any loose and incoherent scribble would suggest movement. This is decidedly not the case. Movement is always progression from place to place.

There must always be some organic or rhythmical connection between the parts or the relation of place

## VARIETY GIVES MOVEMENT

to place cannot be suggested. This connection need not be by actual line. If the eye is attracted from

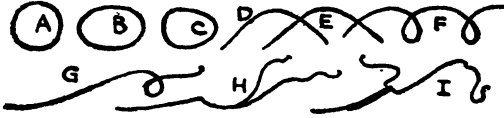


FIG. 26.—Different geometrical curves, showing an increasing expression of movement. Some natural forms continuing the series.

point to point an idea of movement is established. But the eye in leaping from point to point will necessarily trace some sort of line, and it is very

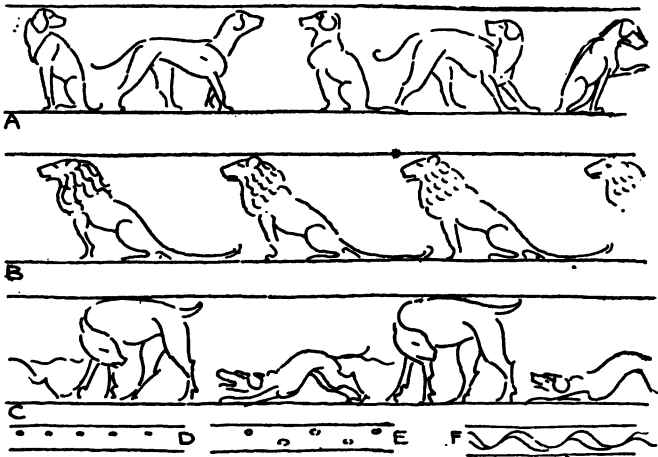


FIG. 27.—The simplest suggestion of movement.

clear that the movement will be better represented by a curved line itself than by points.

A series of forms placed in succession so that the

## DESIGN

eye leaps from one to another gives the simplest idea of movement. If the forms vary the idea is enforced, especially if they are similar in class, as for example, a number of figures in different attitudes, or a number of different animals. If the animals or figures are all alike in form and attitude, there will not be a sense of movement. In this way art seems to adopt the system of the zoëtrope or cinematograph.

We may conclude then that if the eye in passing over a pattern, or in viewing the several parts of an object, has varied forms to observe, it receives an impression suggestive of movement.

The wavy line, Fig. 28, very definitely suggests movement, and it suggests it best if the fluctuations are not mathematically accurate.

We have already seen how important a part is played in design by the horizontal and vertical lines. In these movement finally comes to rest. Hence the chief lines of a design usually glide sooner or later into one of these two directions.

Organic curves, curves of plant and animal forms, are not symmetrical, unless, as in some plant-forms, they grow two ways from a central point or heart. Otherwise there is always a beginning and an end.

A spray which is not also a leading line will therefore have a varying curvature, probably stiffer or straighter at the commencement, more supple and springing toward the extremity. The law applies

## APPROPRIATE VARIETY

to animal forms as well, indeed to any forms arising from growth. The designer, therefore, knows that he must not repeat in such a form the curves

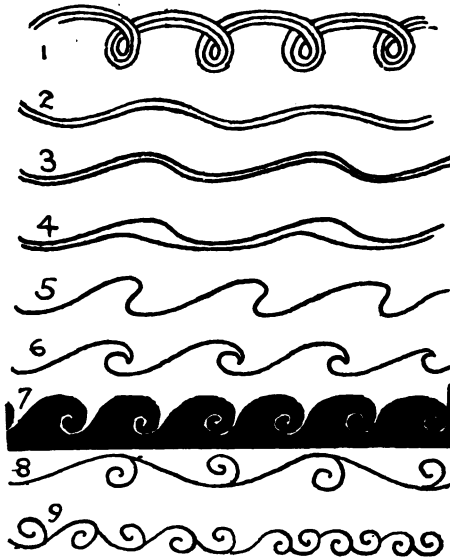


FIG. 28.—Various wavy lines suggesting movement.

employed elsewhere in it. The same rule must be observed in the designing of objects, large or small. For all objects have a base and a super-structure, solid parts and less solid parts, and with the solidity will go a certain character of curvature, with the lighter parts another. In designing objects, therefore, this variety of profile or line corresponding to variety in bulk and weight has to be attended to.

## DESIGN

Solid masses, as in Fig. 30, can suggest movement. In them the speed seems to collect the bulk toward

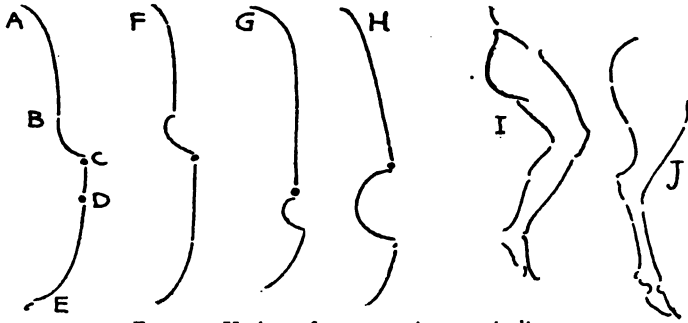


FIG. 29.—Variety of curvature in organic lines.

the forward end, the form trailing off behind. In Fig. 31 some applications of the rule are given.



FIG. 30.—Movement suggested by certain mass forms. Those with curved centre-lines are the more successful.

Finally we must note that serrations, or saw-like zigzags, suggest *progression*, or movement in a certain direction.



FIG. 31.—Applications of the law of Fig. 30.

## VII

# EQUILIBRIUM AND BALANCE

It is to a sense of fitness and not to the observance of rule that one must look for the just adaptation of part to part.

The subject may be approached by considering where rests the nucleus or heart of the object.

If the heart occur centrally, then the object will be symmetrical, because the expansion from the heart

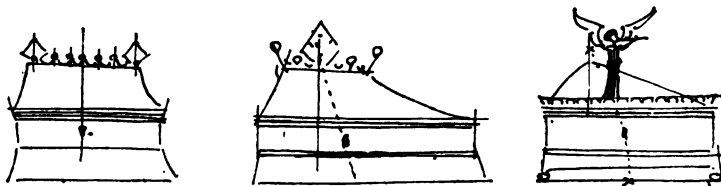


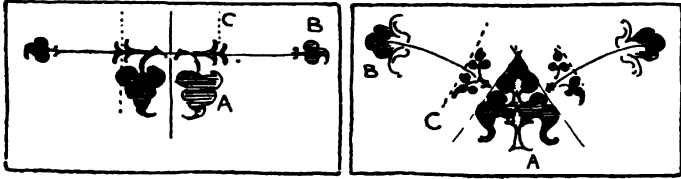
FIG. 32.—Examples of balance.

will be equal on either side. But if the use of the object require the centre to be shifted toward one end, then the balance is disturbed, or rather, has to be equalized. In the case of a box the law will act as follows: The centre or base of growth in the first example in Fig. 32 is in the middle, somewhat

## DESIGN

above the bottom, say behind the key-hole. It would be wrong, therefore, to make the finials different in size, because the object is symmetrical. In the other examples the centre of growth is shifted, and the forms naturally become unequal.

Obviously, *symmetry* always produces equilibrium. When forms balance one another without being symmetrical, they correspond in the same way as



FIGS. 33, 34.—The principle of the steelyard.

the weight and the thing weighed upon a steelyard. Applying the principle of the steelyard to design, we get the result shown in Fig. 33 ; wherein A is the heavy weight, B the light weight and C the fulcrum. From these facts we deduce the rule that— if two forms of which one is greater than the other be connected or capable of connection, a fulcrum must be placed at the proper place. So that in Fig. 34 we find a fulcrum developing at C, nearer to the large than to the small mass. Furthermore, the same rule applies with vertical patterns. Hence in Fig. 35 having A and B as large and small masses, a fulcrum, C, naturally develops.

## PRINCIPLE OF THE STEELYARD

Balance can of course be obtained without symmetry, indeed the word is used when the idea is to be conveyed that equilibrium is maintained, but without the details being symmetrical. Stems twining round upright lines, or a snake upon a rod,

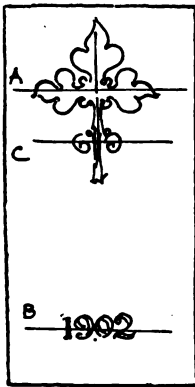


FIG. 35.—A vertical application of the principle of the steelyard.

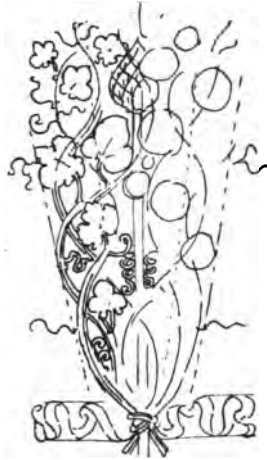


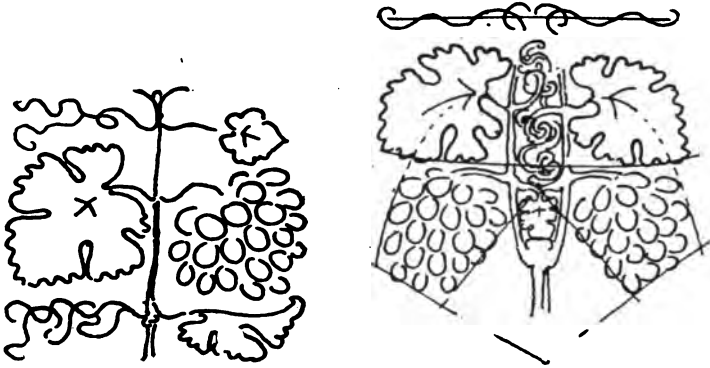
FIG. 36.—Equilibrium in unsymmetrical forms.

are examples, but there can be equilibrium even if the centre line be absent. In all such cases the mass formed by the twining lines must be such as is enclosed within lines symmetrical on either side of a centre line. It does not matter, therefore, how great a variety is introduced into the two sides of a form so long as they balance, and make a symmetrical



## DESIGN

mass. Very often, however, it is of great value to have precisely the same details on either side, as by



FIGS. 37, 38.—In Fig. 38 additional lines are gained in the design by using symmetry.

so doing one gains those extra lines and shapes which do so much for the design. Compare Figs. 37 and 38.

## VIII

### ORGANIC RELATION OF LINES AND MASSES

WHAT has been said of movement, stability, equilibrium, leads to the consideration of such combinations of form as we use. We cannot resist the fact that our object must have personality as if it were a living thing. Its parts cannot thus be allowed to be related in any fashion, but must accord with the idea in the mind of the designer. Each object and each line has a heart, a centre, from which radiates its bodily form, and unless part rhythmically succeeds to part, the individual identity of the object is lost. There are creatures, known to zoologists, who losing a limb have another grow in its place. It seems as if the last cell left of the limb had the power of generating against itself the kind of cell which in the animal regularly succeeds to it, so that a thigh grows a leg, and the leg a foot, a foot toes. This sequence continues till the natural growth is complete.

Of the same kind is the relation of part to part

# DESIGN

in design. The successive parts can only grow from those preceding them, hence to transfer from one

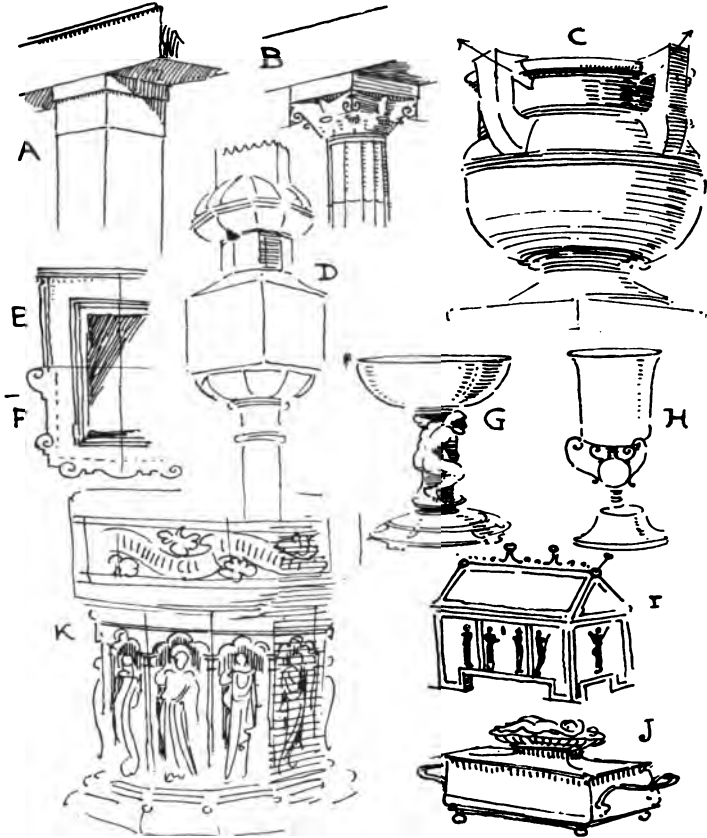


FIG. 39.—Examples of the rhythmical adaptation to one another of different kinds of solids, or degrees of solidity or compactness.

object to another a particular member is to violate this principle of organic growth.

## SEQUENCE IN FORM

When in the designing of form we set out with a line and add to it another, we adopt a sequence which we are obliged to follow out. Our line may *have* to end in a spiral, or in a straight line, merely in obedience to organic sequence, over which we have no power, when once we have commenced. A

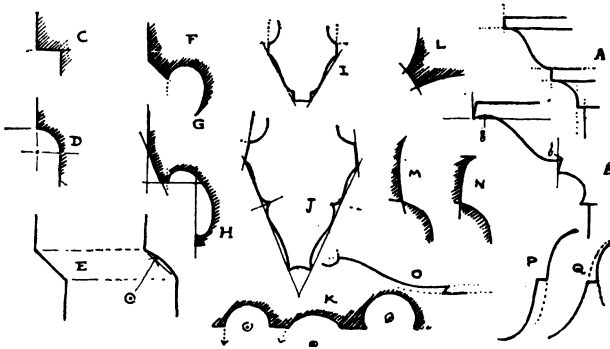


FIG. 40.—Angular junctions.

line cannot, therefore, end as it begins, unless it have a heart at the middle and grow two ways.

Ability to manage such things can only be acquired by constantly trying alternatives, and gradually educating the eye to a sensitive condition.

Precisely the same must be done with the relation of forms—solids, placed in succession. A dome cannot be put on *any* kind of building, simply because a hemispherical form cannot be rhythmically placed on *any* kind of solid.

Lines meeting at angles must be organically

## DESIGN

adapted to one another. At A in Fig. 40 we have the ordinary arrangement in Roman mouldings. In these the curves come from and to the horizontal or vertical position, the straight lines having those directions. At B the straight lines are not horizontal or vertical, and the slants have, therefore, to be adjusted to one another so as to make a rhythmic or organic whole. In these cases the curves do not finish in a horizontal or vertical direction, but are quirked so as to adapt them to the inclined straight lines they are associated with.

## IX OF GROWTH

WHAT has been said in the last chapter indicates what can be said of growth. We cannot avoid the suggestion of growth in many of our lines and forms. Hence comes much use in ornamentation of growing things, plants especially.

The kind of growth varies according to its rapidity—rapidity, that is, in the artistic sense. A sudden turn in the line cannot but suggest rapid growth at that point. We thus easily get slow, wavy, easy, growth, and rapid, expansive, almost explosive, growth. Often, as in the vine, there is a sudden turn where the leaf or branch shoots off, and then again a slow, gentle continuance.

Usually in all these kinds there is general expansion, that is to say the plant widens as it proceeds from its base. But there is also spiral growth, or curvature rather, in which the growth recoils upon itself. The only spirals known to mathematicians are the usual “circular” spirals in which the space between the convolutions gets regularly greater toward the outside. Oval or flattened spirals are

## DESIGN

not natural, and unless occurring where they appear to be squeezed down naturally, as in ironwork, are certainly to be avoided. While it is too much to say they do not exist in nature, zoologists and botanists do not expect to meet them. Where such alternate growth as the oval spiral suggests, exists, it takes a more decided form, the flattened part being more decidedly flat.



FIG. 41.—A Japanese stencil.

An example of the oval spiral is, however, given in Fig. 41. The design seems, in this case, elongated sideways as if some external force were acting upon the spirals.

In growth, moreover, there must be the adaptation of strength to service. How else do the curves and lines of plant-form arise except by the inherent

## WEIGHT, STRENGTH, FORM

strength of the plant seeking to support its own weight, and stretch itself out towards the light? Curves thus become the evidence of strength and of the load carried, and the charm of this side of natural economy is introduced into art.

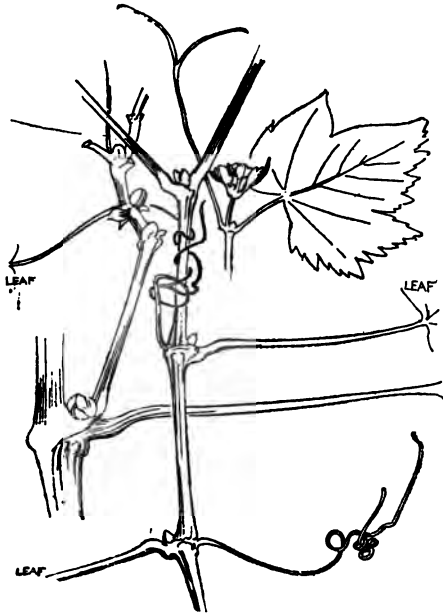


FIG. 42.—Stalks and tendrils of the vine. Either a tendril or a bunch of grapes always grows opposite the leaf. The leaves occur alternately.

The great law of growth is *radiation*. No one, that is to say, will succeed in expressing growth who does not make radiation permeate his work. It should not be difficult to see that this is the case.



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Growth always indicates a heart or base from which the members draw their sustenance. Our illustrations of movement show that some sort of growth can be suggested in a single line, as in B, Fig. 43. This is because a movement *from one end* is suggested. That end thus becomes the root. The suggestiveness is due to the changes of curvature in the line. If consequently the curve does not change, as in the case of an arc of a circle, the one line will not alone suggest growth, but two or more such lines, if



FIG. 43.—Radiation suggesting growth.

arranged radially, will—c. If the lines be not merely simple curves such as these, but of varied form, as in D, more elasticity and consequently more growth will be suggested. We come, then, to the conclusion that growth is suggested by radiation.

There are several kinds of radiation, of which more is said later on, but we must here emphasize the value as indicative of growth of that kind which suggests *sudden expansion*. The chief difference between H and A in Fig. 43 is that the growth suggested in H is sudden, while that suggested in A is gradual.

## SUDDEN, GRADUAL GROWTH

It is sudden radiation which we see in leaf and flower, giving them sprightliness and dash and "go."

The "slowest" growth is the circular. The spiral belongs usually to the circular class of curves, and dominates certain kinds of classic ornament. These are the Roman and Renaissance acanthus ornament.

These ornaments have almost entirely, so far as the scrolls are concerned, fairly pure circular spirals, with all the curves growing off from them very much of the same curvature. It will be seen in Figs. 44 and 45 how much the designers tried to avoid anything explosive in the radiation. They have carefully curved the radiating leaves of the rosettes, and have thus avoided any suddenness



FIG. 44.—Renaissance, carved wood, by Giovanni Barile.



FIG. 45.—Cinque-cento acanthus foliage, marble.

## DESIGN

there. The second of these examples is full of delicately beautiful curves, though we have ceased to be enchanted by the style. It is too developed to be merely conventional, as was the Byzantine or Early English Gothic, and it is not natural enough for the high degree of growth elaborated in it. We must not forget that these acanthus ornaments were always modelled or carved. By being in relief the

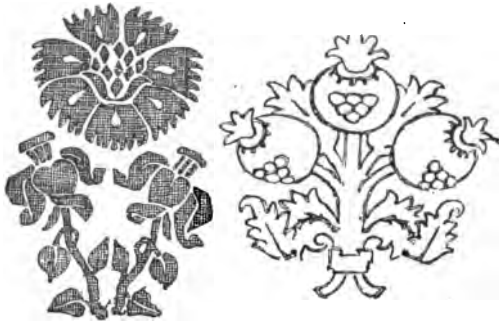


FIG. 46.—Renaissance flat ornament (textile).

exact spirals and other hard forms become softened by the varying light and shade. Such foliage is, therefore, unsuitable as flat ornament. The Italians did not employ it for their textiles, or when they did, so changed it as to render it suitable to its new material, and unlike its old self. In Fig. 46 are given two examples of the flat ornament then in use. It will be seen that they contain considerable “explosive” radiation.

The student must not neglect radiation *in the*

## RADIATION IN SOLID FORMS

*round.* Indeed, no part of the ornamentalist's training is so important as the rendering of solid forms. There is a wide difference between flatness, or breadth of effect and flatness of the objects. Hence the

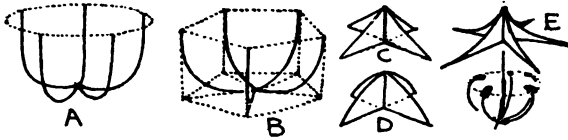


FIG. 47.—Radiation in the round.

truths of radiation of forms in the round, as given in Fig. 47, must be studied and observed.

## X

### THE SPIRIT OF NATURE

THE part to be played by Nature in ornamental art is not readily defined. Over and over again the student is asked to design patterns using some plant or other. Why? There are but three reasons why natural forms should be used. First, nature is a great store-house of form. The second reason is the demand of the ordinary man for pictures of ordinary things. To learn to put roses or daisies in one's work must surely be good. The third reason is, that independent of any actual identity which may result, the spirit of nature must be over the work, that without it the work is mechanical and unsatisfactory.

The spirit of nature may be defined in several ways. Orderly system, sequence, law, may be said to symbolize natural method. They may, but they are more conveniently associated with intellect. I would rather talk of the spirit of nature as something quite different; as, in short, we see it in

## LIGHT AND DARKNESS

Shelley's poems, Turner's pictures, and Blake's imaginings.

The life of a thing is disclosed in its identity. Singling out the individual object and portraying its form and shape one arrives at its identity clear and defined. Such surely was the method of such classicists as Poussin or David. To them the life in



FIG. 48.—An expression of light.

which the object lived was nothing, to Blake and Turner it was everything. Light and shadow were not to these last mere method of exposing the object, but the object by taking light and shadow exposed nature. There is thus a value in darkness, a value in light which is not to be accounted for by any desire to portray the objects they partially display.

Now just as we can suggest growth in ornament, even when we are not suggesting any particular growth, so can we suggest this revealing power of light and darkness.

It is not too much to say that unless the designer is pursuing the expression of these his work will

## DESIGN

lack charm. His only other hope is in identity, in portraiture, of oak, rose or daisy. Of course identity is a good quality, but a little goes a long way, and

its value is not to be compared for a moment with the significance of darkness and light.



FIG. 49.—An expression of darkness.

The same may be said of colour. If used for purposes of identity, we know its value (its diminished value) in ornament; if for itself alone, for its general significance, in a spirit of nature fashion, we know how priceless it is.

To interweave the finer qualities of colour and light and darkness with identity is the hope and dream of every thoughtful decorator, but every thoughtful or even sensible decorator knows that the general beauty of his work, with a vague general spirit of nature about it, is the first element he must seek.

By Figs. 48 and 49 I wish to call the reader's attention to the expression of light and of darkness—of light and darkness as things in themselves worthy of expression. In the most intellectual and most identifiable decoration we know—the Greek

## SECOND SIGNIFICANCE

vase-paintings—there is always this quality. All great art has delighted to express light and shadow ; though not necessarily by “ shading.”



FIG. 50.—Ornament in woven tapestry and needlework (the thin white lines are the needlework). From tombs at Akhmîm (Panopolis), Upper Egypt, 3rd to 6th cent. (Vic. and Alb. Mus.).

There is, indeed, a significance in colour, form and tone other than that which renders them descriptive. The Greeks did not carve the human body so delicately merely to express it, but because a delicately and proportionately formed human body expresses in its form and in its movements its divine origin, if one may use the expression. If a drawing of a limb expresses a limb as a piece of natural



## DESIGN

history, so also can it express that harmony which seems to have been the formative power beneath all things. This second significance is not understood by many. To them a line of lettering is good so far as it is legible and serviceable. Its second

significance, which it has if it be beautiful, of "the divinity that shapes our ends" does not occur to them. Now, were it not for the second significance there would be no decorative art at all, no proportioning, balancing, adjusting, picking and choosing, no selection at all, and the importance, therefore, of this matter should be very evident.

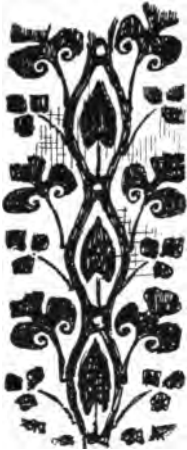


FIG. 51.—An ornament from the same source as Fig. 50.

Another ground for the second significance, which is indeed but the former reason restated, is that the second significance limns or suggests the whole breath of nature as distinguished from isolated instances of natural form. It is this that I call the spirit of nature. So that if we make a pattern say such as the beautiful Coptic pattern, Fig. 50, we not only draw leaves and stalks (which are isolated instances of natural form), but we draw the spirit of the forest, or grove, in which the leaves grew. Of what significance then is the broad band of dark

## COPTIC PATTERNS

in that design or the broad stretch of light linen forming the rest of the fabric, and which is not here represented? They too play their part in the adumbration or shadowing forth of the face of



FIG. 52.—An ornament from the same source as Fig. 50. Observe in this example how the leaves A and B are formed rather to fill the space than to appear leaves.

nature. They may be land or sky or sea ; it were foolish to denominate them, but the result is the same—nature in detail and in spirit is before us.

These Coptic patterns are exceedingly interesting, and of the very essence of decorative art. They

## DESIGN

owe some of their success to technical process, though we must not rob their authors of the credit of appreciating what they were doing. The patterns are partly woven by tapestry method. These parts form more or less coarse masses. The masses are then refined and developed by work in fine thread with the needle. The geometrical pattern in Fig. 50 is put in with the needle.

This stitching on of a pattern in very thin line on a dark ground gives us that exquisite effect which Aubrey Beardsley so often achieved. It is as though, as in actual nature, the darkness was not blank and void, but was full of idea, full of form, full of only dimly seen but very true beauty. One cannot but connect the idea with that of the woods and the nymphs and dryads dwelling within, and being in fact part of them.

To work in the spirit which I have endeavoured to disclose is to be an artist, and not merely an ornamentalist. It is to work with imagination, and to enrich one's productions with a degree of poetry.

Moreover this is not an impossible task ; nay, to some extent there is nothing in art-work more easily accomplished. It is hardly too much to say that the designing of patterns gives one as good a chance of producing something poetic as any art practised. And this is because the technique is kind and assists rather than hinders. Moreover the rules which may be followed are very tangible.

## SOME RULES OF THUMB

1. Keep orderly and even geometrical and symmetrical disposition of lines.

2. Keep the light parts together so that they mass together, and so that one can pass the pencil round them as if one said, "Here are the light things."



FIG. 53.—Circles of dark.

3. Do the same with dark—"Here are the dark things."

4. In the light parts let the light eat up the dark so far as to reduce the dark to lines, and in the dark



FIG. 54.—A leaf mass developed in dark.

parts let the dark eat up the light, as is done in D, Fig. 54, wherein one would not at first notice the light.

5. To thus fill up the light or dark, run in any little odd piece to help eat up the ground. Such

## DESIGN

*particles* often convert a poor design into a good one. One such particle is marked A in Fig. 52.

6. Expand the leaves or other forms so that they fill up the spaces they occupy, as B, Fig. 52. This expansion often makes leaves formless. Therefore let it be noted that to avoid formlessness both as given by particles and by expanded leaves, be careful to always place boldly a definite form with some



FIG. 55.—Twigs and flowers.

identity. No better example could be given than the fine leaf in this same design.

7. Use broad lines and broad masses. Do not, that is, get into a merely linear method. Note, however, in the design, Fig. 51, how delicate and thin are many of the stalks. How natural !

In Figs. 53 and 54 the process is seen in use.

In Fig. 55 there is a suggestion of the tangle of twig and flower such as one sees in the woods.

## XI

### OF RICHNESS

WE should not do much designing if it were not for richness. Now richness has not necessarily anything to do with identity. Why is it that some natural forms go well and easily in decoration? Because the delineation of them involves certain more or less complex forms which happen to be the kind that corresponds with ornamental richness. The eagle and the apteryx are not on equal terms in the realm of decoration, nor can the Manx cat compete with the tailed variety. The Dover sole is delectable, but the decorator prefers carp.

This selection is in obedience to an understanding, innate or developed, of the rich in effect. We have no need to consider the why and wherefore, but merely to recognize the fact, confident that we can serve the oyster-merchant better with a frieze of scallop-shells than with imitations of the more fashionable bivalve.

After all, it may be that identity has something to do with it. When did an oyster-shell look like a

## DESIGN

shell in comparison with a scallop or cockle, or an apteryx look like a bird, or a sole like a fish? Usually the form has to be rendered in so simple a manner, that it is wise to choose easily recognized objects for representation.



FIG. 56.—Figure of a king.

Richness is gained primarily by dividing or breaking up the surface previously plain into portions. These portions by their shapes, their colours, their textures, are capable of rhythmical arrangement. In place, therefore, of a plane space we have a mass of rhythmical forms which are combined in a rich pattern, having suggestions of stability, movement, growth, nature, and identity, to say nothing of the whole range of symbolic suggestions possible.

Our task is narrowed down to this: we split up the surface into diverse parts; we recombine them into a rhythmical whole, taking care all the time of

## SUBDIVISION INTO PARTS

stability, movement, imagination and identity. By "imagination" is meant the care for the *spirit* of nature; by identity, the care for some truth to detailed form.

The examples given will render this matter better understood.

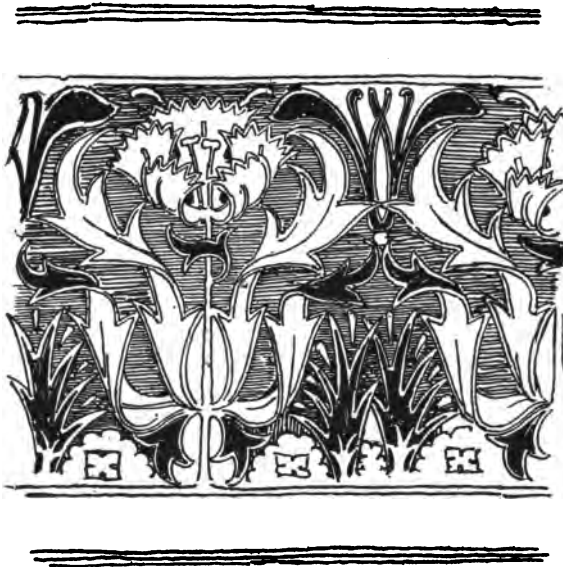


FIG. 57.—A border in different tones.

In the figure of a king, Fig. 56, we have our surface broken into diverse parts. These may be enumerated (*and I would advise the student always to see that he can enumerate the parts of his design*) as follows—



## DESIGN

1. White background (density 0).
2. Cloak (angular pattern) (density 1).

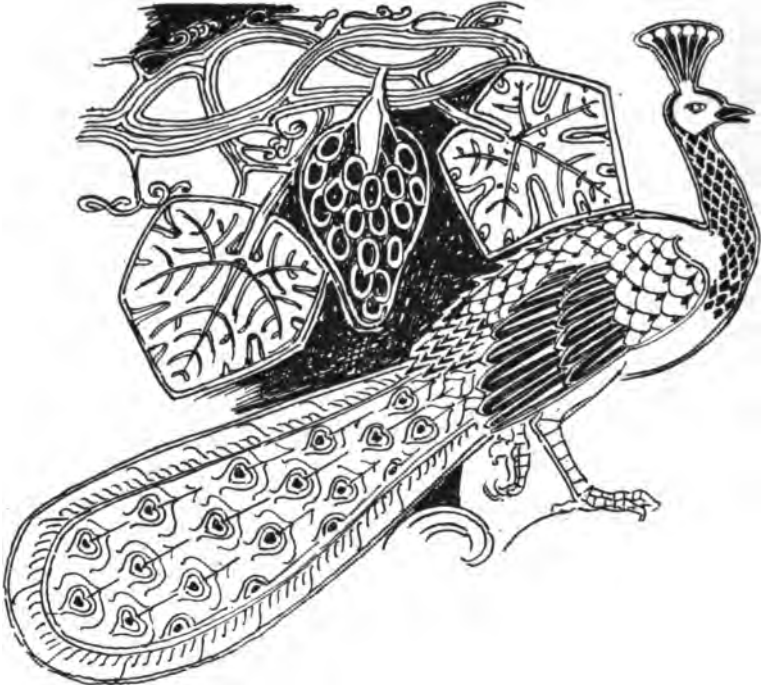


FIG. 58.—A design with the different portions variously covered.

3. Beard, hair and tunic (parallel pattern) (density 2).
4. Lettering (a fret pattern) (density 3).
5. Belt and topmost ornament (density 4).
6. Sword strap and shoes (density 5).
7. Black background (density 6).

## DIVERSITY OF PATTERN

In Figs. 57 and 58, especially in the latter, the same kind of classification could go on. Portions



FIG. 59.—Lettering and fret from a carved ivory. Much enlarged.

can be ranged according to their density, according to the kind of pattern, as chess-board, scale pattern, frets, scrolls, etc. ; and again, ranged according to identity.

In Fig. 59 we have two bands, one a fret, the other

## DESIGN

lettering. The densities are different, the planning is different, and the "subjects" of both are different. The subject of the fret is an intellectual exercise in zigzag meandering, the subject of the lettering is what it means.

## XII

### BREAKING UP THE SURFACE —MASSING

WE were bidden on a former page to break up the surface and thus obtain richness, and to see that we so did our breaking up that the portions were recombined into a personal or organic whole.

There are three ways in which the breaking up can be done :

1. Architectural.
2. Sub-architectural.
3. Pictorial.

The architectural method is that in which the form or stable condition of the object is simply re-asserted in the decoration. The sub-architectural is that in which new forms, but of an architectural character, are introduced. See Chapter IV. for an explanation of these terms.

The pictorial is that in which the masses depend largely upon the forms of the objects represented, as in Fig. 7, where the mass made by the figure derives

## DESIGN

its form, not from architecture, but from the figure itself.

Of each of these methods a detailed explanation must be given.

In Fig. 60 we have examples of the simplest of architectural methods—though not necessarily the plainest or most severe—the treatment of the edge.

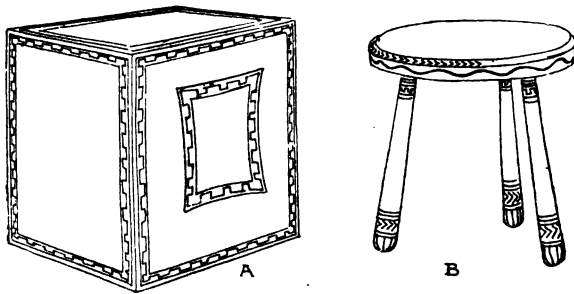


FIG. 60.—The edge treated.

In such cases the edge alone is emphasized by a band or border of ornament of any kind. All the ornaments in this diagram are produced by single lines, not by masses or blots. That ornament upon the cube-like object is the most architectural of all linear patterns. In heraldry the pattern is known as "embattled." The edge of the stool is decorated by a "wavy" pattern.

The terms used in heraldry are useful in this connection. They are given in Fig. 61.

Of these heraldic lines those which are most useful

## HERALDIC LINES OF DIVISION

ornamentally will be at once recognized. In heraldry also the division vertically is recognized and described as *per pale*, the pale being a broad band one-third of

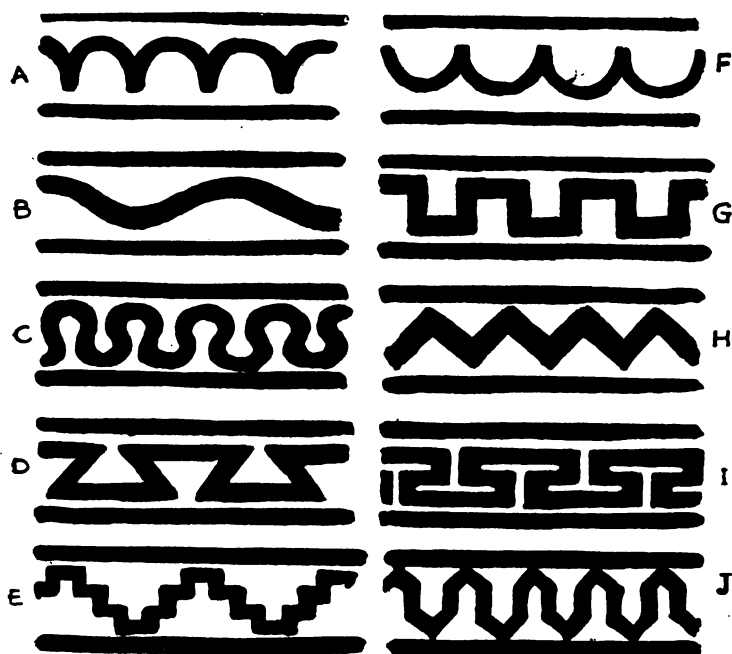


FIG. 61.—Heraldic lines of division, A, engrailed ; B, wavy ; C, nebule ; D, dovetail ; E, embattled grady ; F, invected ; G, embattled ; H, indented, or if large, dancette ; I, potent ; J, urdée.

the field. The horizontal band of the same kind is the *fess*, while the diagonals are the *bend* and *bend sinister*. The pale and fess in conjunction produce the cross, the bend and bend sinister the saltier (St. Andrew's cross).

## DESIGN

In Fig. 62 we have our surface divided horizontally and vertically, on the principle of the cross and yielding a chequer pattern. The second example is *per saltier*. In both cases other patterns are suggested



FIG. 62.—Chequer patterns.

by even a slight toning of some of the parts. Thus, the first begins to have a “vandyke” or indented appearance. A cross is easily developed at the right-hand side. In the lower example a great deal of variety is easily introduced.

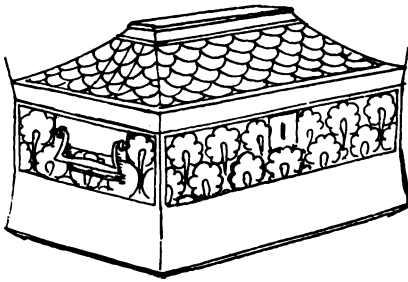


FIG. 63.—The main divisions architectural.

The severest architectural arrangement is that in which the object is divided into definite bands,

## METHODS OF SUBDIVISION

horizontally and vertically. Such an instance is seen in Fig. 63, and in several examples in Fig. 64.

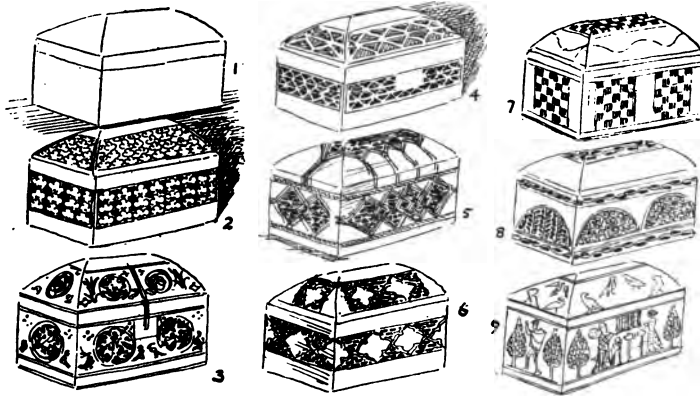


FIG. 64.—Different ways of dividing the surface.

The sub-architectural method is that in which such partitioning as is seen in Fig. 65 is employed.

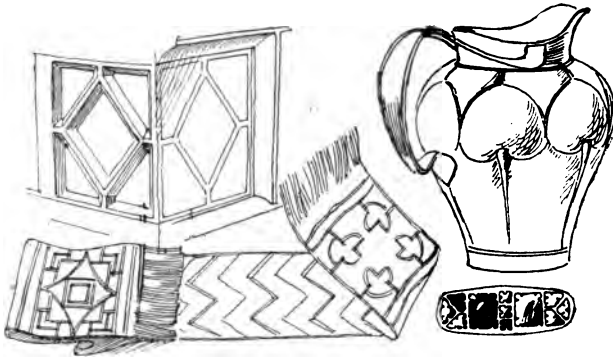


FIG. 65.—Partitioning of a sub-architectural character.



## DESIGN

In the instances there given the divisions are of a structural character, but do not repeat either the chief lines or real construction of the object. Of the

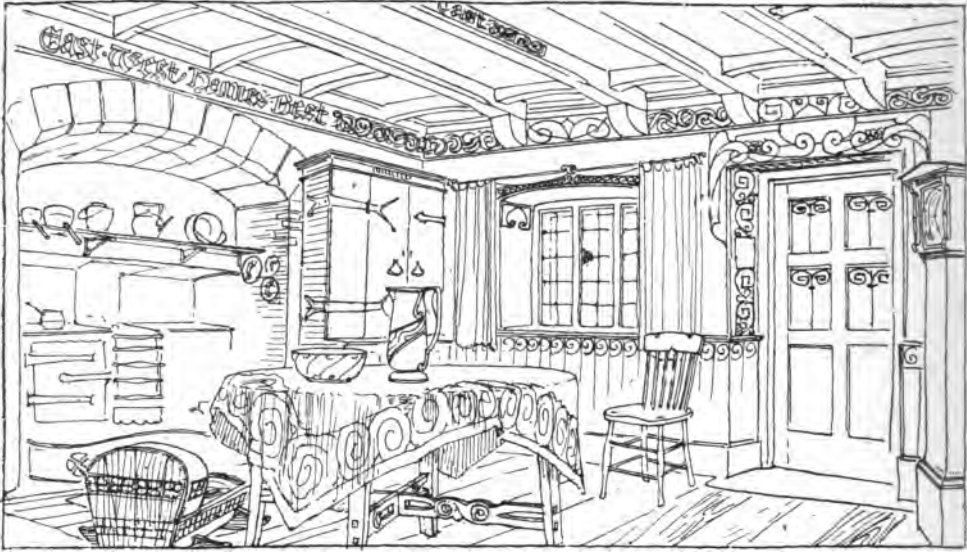


FIG. 66.—Cottage decoration.

examples in Fig. 64, Nos. 3 and 8 belong to this class.

The decoration in Fig. 66 may also be classed with the sub-architectural, for spiral curves are very much of that order. The examples in Fig. 67 are both architectural and sub-architectural.

Of the pictorial method of sub-division an example is found in No. 9 of Fig. 64, and also in Fig. 2.

## SMALL PATTERNS

Besides the three main methods there is the covering over of the surface, or part of the surface with small

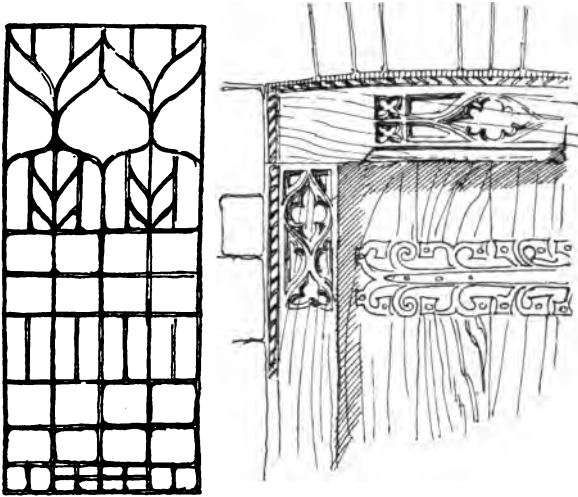


FIG. 67.—A design for leading, and for a doorway.

patterns such as those in Fig. 68. Such patterns are the lowest class of ornamentation, and it will be easy to see that they are nothing more than small

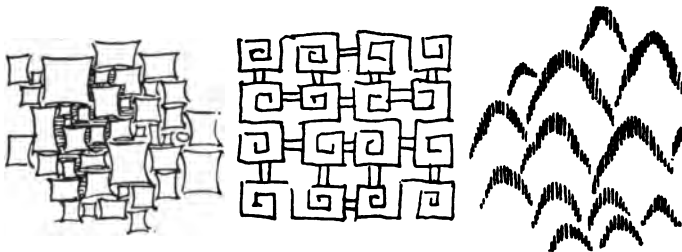


FIG. 68.—Incrustations or diapers.

## DESIGN

illustrations of the usual modes of breaking up the surface.

It does not matter, in fact, how the surface is broken up so long as the laws of decoration are observed—these we have seen are *personality or unity*, stability, growth, imagination, identity. In Fig. 69

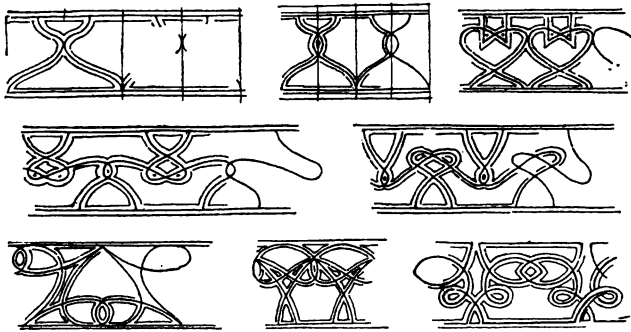


FIG. 69.—The ground cut up by repetitions of a line.

we have examples of what may be done with a simple curved line, reversed and repeated.

Throughout our partitioning we have to see that our massing is good. We must see that we do not lose all (or half) of our plain spaces, and that we consider where we shall place our carving and painting which is bold, and our carving and painting which is delicate.

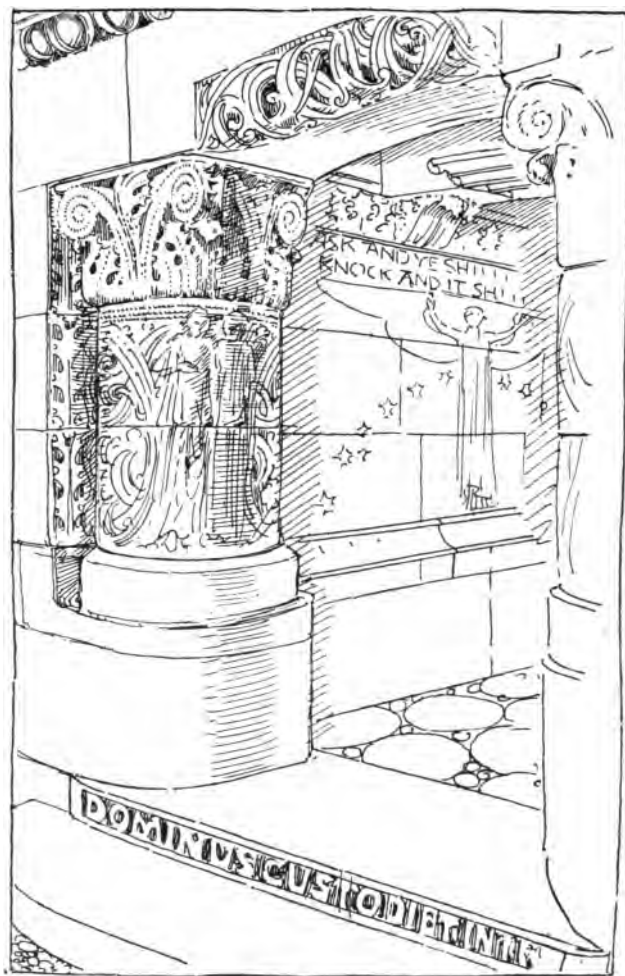


FIG. 70.—Massing of workmanship in distinct positions.

# XIII

## PARALLELISM, RADIATION, RECTANGULATION

IF in our last chapter we saw to the breaking up of our surfaces into parts, we now speak of recombining them into an organic or personal unity. This recombination is necessary. Thus the five lines, Fig. 71, A, appear to have no connection or relationship.

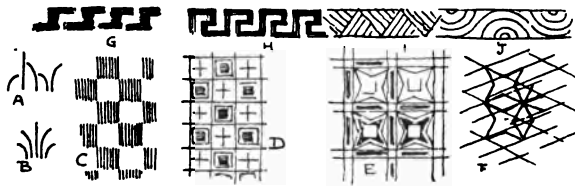


FIG. 71.—Parallelism.

The eye can only take them, laboriously, one at a time, ultimately observing that they may be resolved into two pairs and one odd one. But if the five lines be arranged as at B, the result is an arrangement readily apprehended. This is the reduction of the ideas from five to one, though the number and shapes of the parts remain the same.

## RE-COMBINING THE PARTS

The combining principle has for its chief laws Parallelism, Radiation and Rectangulation, which are all means of unification.

*Parallelism* surely needs no explanation. It

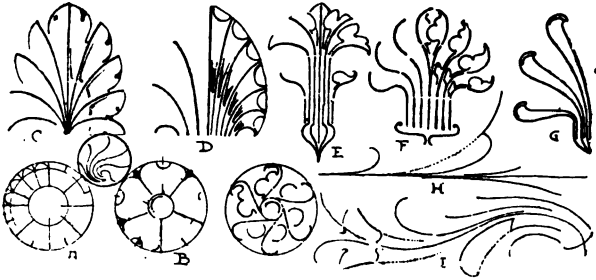


FIG. 72.—Radiation.

simply means that it is well sometimes to keep adjacent forms parallel, or to let certain forms be parallel to others. Hence in the case of the

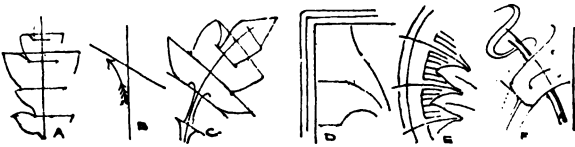


FIG. 73.—Rectangulation.

filling of a panel it is well to sometimes keep parts of the ornament parallel to the edges. At the very start we should introduce lines, speculatively, parallel to our architectural lines, and allow detail to conform to them if it seem desirable.

## DESIGN

*Radiation* is the meeting together of lines at a point or on a common base. In D, E and F, Fig. 72, the lines, once converging, become parallel and would never actually meet. H and I are examples of tangential radiation, wherein the lines do not pass immediately to the final point or base, but glide into a chief stem, and pass down it to the end. The point to which lines radiate is often

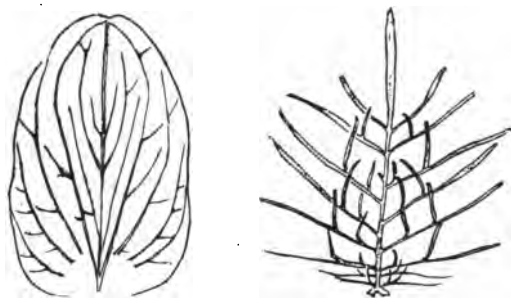


FIG. 74.—Two leaves from nature. Examples of sudden or expansive radiation.

some distance from the lines themselves. This is the case in wings, in which the feathers point to, but do not reach, a centre of radiation.

Lines radiating with the chief lines of the design, and radiating with the border, should be speculatively cast upon the drawing and used if necessary. The ability to adjust line to line radially can only be got by practice—indeed a facile manner of radiation in which the same class of curve is continually repeated

## RADIATION

is no difficult matter to acquire, and is often rather to be regretted. Radiation is *a means* of unifying lines which have other qualities to recommend them.



FIG. 75.—Persian embroidery.

While it controls the form, it should not always determine it. Were that the case we should not have in Figs. 75 and 76 the beautiful patterns we have. In truth, in some of the best patterns there is a



## DESIGN

degree of awkwardness, or at all events an absence of dead uniformity of radiation.

The examples here given of leaves from nature, Fig.



FIG. 76.—Oriental embroidery.

74, and the Persian embroidery, Fig. 75, show very beautiful radiation.

By *rectangulation* is meant the crossing of one line by another at *right angles*. Symmetrical leaves suggest the principle whether straight as at A, Fig. 73, or bent as at c. The value of the rule is very great. It gives stability to the design, stops lines taking the

## RECTANGULATION

eye too rapidly along their course. At the same time if lines cross others at right angles they do not interfere with the eye's enjoyment of or observation of the lines crossed, but merely put a momentary check upon the rate of progression. Were such lines not at right angles the eye would slide off its own line on to the cross line, as is indicated by the arrow in B, Fig. 73.

Lines approaching borders or other lines should do so at right angles. Straps, cords or lines forming knots or such-like patterns should cross one another at right angles. A very definite rule should be followed, that *when one form crosses another it must do so at right angles.*

The fine pattern, Fig. 76, is one in which all our three principles are introduced. The pattern is certainly of extraordinary beauty. It has variety of a high order coupled with the most stable arrangement. It owes its symmetry largely to its being worked on a fabric, the pattern being counted on the threads.

## XIV

### DIVIDING SPACES ; FILLING SPACES

WE have spoken in a former chapter of breaking up the surface, and have seen that in arranging the masses we can follow three methods, each in turn. These methods were—the architectural, which gave the main and simple divisions ; the sub-architectural, which gave the partitioning, which, while subordinate, was very formal and more or less constructive ; the pictorial, which gave odd shapes harmoniously adjusted to one another.

In considering the dividing and filling of spaces, we are dealing with a very similar subject. Instead of an object, we have one of its parts, or even a little piece of one of its parts. The only difference in fact between the treatment of the object and one of its small details is that in the detail the stress of architectural considerations is not so evident. This means that the need of *stability* is not so great, but it may be taken as a sound rule that even the details should be treated largely architecturally, should, that

## SMALL SPACES

is, be based on the simplest lines, should have vertical and horizontal lines, or lines of simple growth and lines crossing them at right angles. Practically, we find the filling of small spaces differs from the planning out of a scheme, in that in the small spaces we seem to be alternately using either *lines* or *masses*, whereas in planning out a scheme we draw lines both as lines themselves and as the shapes or areas of masses. When the heralds divide a shield vertically, they call the result “party per pale,” or if horizon-

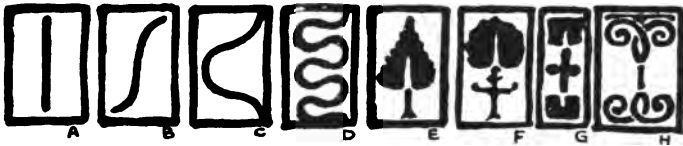


FIG. 77.—Dividing spaces.

tally, “party per fess,” or if diagonally, “party per bend.” In each case a line defines two masses. If the dividing line be a wavy line, the description is “party per pale, wavy.”

We do precisely the same thing with our stem or scroll lines. Thus in Fig. 77 A is *party per pale*, and is the usual centre line in many panels. Of course we do not follow heraldic methods, and the heraldic descriptions are here only used to assist explanation. D, for instance, has a line “nebulæ,” placed vertically or *per pale*, but the proportions are not those a herald would use. Our object is to

## DESIGN

divide the ground into shapely masses, and not necessarily to keep an easily intelligible result. In A we have two masses, in B two, in C three, in D seven or eight. The curve of C must be so drawn as to give three shapely masses in good proportion to one another. Good proportion does not mean equal, and yet it is a great assistance to think one is making the spaces equal. If for instance a student were designing E in this diagram, one would probably tell him to get the four white spaces "more equal." He would understand that he had to attend to their relative areas, and would grasp what was required more readily than if a rigmarole about rhythmic proportion were poured out upon him. These little spaces should, moreover, tend to squareness or fatness, for with such a quality they conserve their light or dark, and have the force of tone.

In E, F and G we have illustrations of the use of masses for purposes of division. The mere painting in of the leaf in E gives at once four masses, while the addition of the stalk divides one of the four, and so makes the number five. The difference between E, F and G may be said to rest in the suggestion of more or less movement.

By what has been said in a former chapter the student will be quite prepared to find the cross or square forms of Fig. 78 put down as suggestive of stability, and the circular forms of Fig. 79 as suggestive of movement.

## EQUAL SUBDIVISION

In Fig. 80 again we have several mass forms applied to the square, circle and triangle. Note particularly that the sides of the square in the circle are hollowed. Whether the sides of geometric forms should be hollowed or bulged in this way is a most



FIG. 78.—Subdivision suggesting stability. In the example on the left the cross is sub-architectural, and therefore less stable in appearance.

important matter. Often without the hollowing the white patches round about are too small.

We thus see that we can divide our spaces both by drawing lines and blotting in masses. In 1, Fig 81, we have a square within a semicircle. In K we have three squares, the surrounding spaces being broken up equally by lines

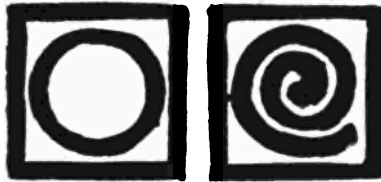


FIG. 79.—Subdivision suggesting movement.

which are placed either frankly in the middle of them, or in such positions as will result in an equal partitioning into thirds. The same process is going on in M and in N. In M there are three stable

## DESIGN

masses, squares, connected by lines which *curve so that they may break up the spaces evenly*. Where-

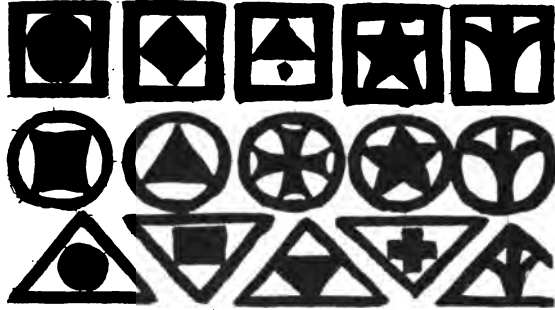


FIG. 80.—Forms within forms.

ever, even then, the spaces are left at times rather large, shoots stretch out and further subdivide the ground. It must be carefully noted, too, that

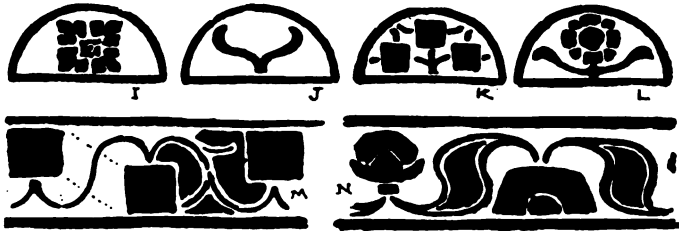


FIG. 81.—Masses and lines dividing spaces.

these small shoots *point to the obvious corners or points of the masses*. This is in accordance with the greatest law of design—the interweaving of

## KINDS OF SUBDIVISION

all parts into a harmonious whole. When, therefore, flower (the squares may be such) and stalk, although not connected in reality, are connected by their disposition, they must have something in common, and must be in harmony. In *n* the wavy line has widened into a mass.

The design for a mat, Fig. 82, includes the several kinds of subdivision. It is architecturally divided into borders (or ends) and middle. This division is,



FIG. 82.—A mat.

say, where the line of dots occurs. Secondly, it is divided sub-architecturally by the ovoid or *vesica piscis* shape on the field. The four leaves strewn on the white ground give shapes pictorially. Again, the fringe is a decoration on architectural lines. So is the white band with the squares upon it. The black band with the wavy line is of the *movement* order; and so is the rope border round the oval. The oval itself is divided into three masses, two of which are dark, the third, the central, is dark also, but illuminated by a pattern of white lines.



## DESIGN

The patterns from sgraffito plates, Fig. 83, have their architectural qualities secured by the very bold full treatment of the circular border lines. Between these a very beautiful wavy line rolls up and down. Note carefully the great volume of the



FIG. 83.—Decoration on sgraffito plates. Italian, 16th century.  
(Vic. and Alb. Mus.)

forms, as for instance in the zigzag at A. Note, too, how the white is “eating” up the black, so that a fine expression of light is obtained.

When we proceed to use our masses and lines to break up a space, say a panel, we find three definite alternatives are before us. These three methods

## RADIAL & SPIRAL METHODS

are the *radial*, the *spiral* and the *mass*, and they are illustrated side by side in Fig. 84.

The *radial* method is that in which the forms used radiate from a common root point and expand into the head of the panel. It is evident that this is a method very well suited for floral designs, since it agrees with the natural growth of plants. It

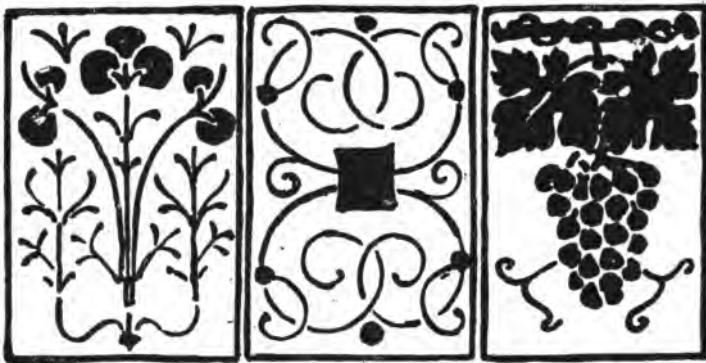


FIG. 84.—Radial, spiral, and mass methods of filling a space.

gives a calm and natural effect. As a rule the forms should rise from the root well up into the space before they begin to expand, and they should approach the borders either at right angles, or tangentially. The chief danger in using this method is that the forms readily fall into liney, stringy patterns, with a monotonously even distribution of the details. These defects are seen in Figs. 85 and 86. As a corrective, different plants may be used

## DESIGN

below, or the lower part left plain, though the best plan is to use the mass method to some extent.

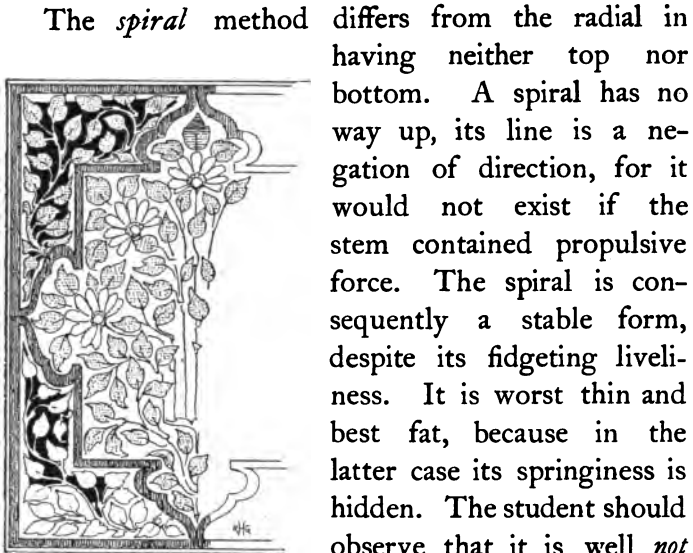


FIG. 85.—A radial pattern, insufficient in massing.

The *spiral* method differs from the radial in having neither top nor bottom. A spiral has no way up, its line is a negation of direction, for it would not exist if the stem contained propulsive force. The spiral is consequently a stable form, despite its fidgeting liveliness. It is worst thin and best fat, because in the latter case its springiness is hidden. The student should observe that it is well *not* to let the spiral *touch the edge of the panel*. The

reason is that the masses outside the spiral are too small if that is done. Spirals are again referred to in the chapter on all-over patterns, and in that on method of delineation. The cottage interior, Fig. 66, is decorated with spirals sobered by curved-sided Greek frets.

The *mass* method is that in which forms are lumped or blotted down into the space without regard to their linear character, which governs in the

## THE MASS METHOD

other two methods, but merely with regard to the one mass suitably decorating the other. Since in it there



FIG. 86.—A radial pattern, insufficient in massing.

is a greater demand for taste in adjusting the masses, so there is necessarily less to say in the way of giving rules.

Of course the three methods here explained enter all of them into designs at one and the same time, but the student must master them one at a time.

## XV

### DEVELOPMENT OF DETAILS

A GOOD detail will make the whole design good, for the simple reason that if it be a good decorative detail it must contain decorative principles, and its author must know what he is about.

A detail must have *pattern* and *identity*. Of the two, the former, *pattern*, is the more essential decoratively. The identity or likeness to nature is not necessarily good in decoration. We have already compared the Dover sole and the carp to the disadvantage of the former.

He, therefore, who cannot recognize or produce patterns cannot hunt out, or develop, good details for design.

Would the reader ever use such a pattern as the scale pattern in Fig. 87? Has he ever done so? If he has not made designs, as sketchy as one likes perhaps, in which such a pattern has been used, he has not much chance of designing such a detail as the beautiful rose and crown, Fig. 88. For that rose and crown are really a scale pattern mount-

## DETAILS ARE PATTERNS

ing up arch upon arch just as do the scales in Fig. 87.

The rose shown in Fig. 89 is certainly good as regards its identity, but its rank as a pattern is not high. It would have to be used, and only used, where architectural stress was slight.

Attention must be given then to the ornamental

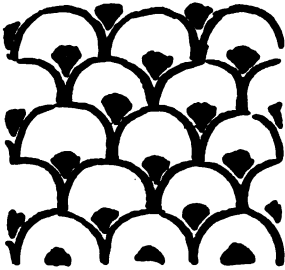


FIG. 87.—A scale pattern.

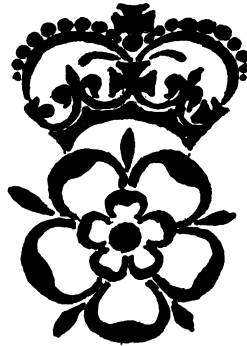


FIG. 88.—Badge. Rose and crown, 17th century.

character of the details used. Decorative beasts should find favour. In them the details are developed into patterns, and the tendency to make patterns and to neglect natural details is encouraged. At the same time a general vigour is always to be given to such forms, and the identity established by grasping bold and general characteristics rather than realistic details.

Sometimes forms, as of leaves, can be taken direct from nature and used without alteration. These

## DESIGN

instances are very rare, and it is by no means advisable that the student should try to seek or follow them. He should draw them from memory, when only the general idea remains in the mind.



FIG. 89.—Rose (from a modern Japanese fabric). Of the two leaves which is the more decorative?

The great reason why leafage is so largely used in ornament is this: We cannot avoid suggesting growth, and by suggesting growth we readily suggest plant-form. There are many other kinds of growth beside plant-form, but plant-form is the chief kind of growth which is at all linear in character, and the only kind which

sends off shoots and thin stems bearing broad masses.

In Fig. 92 are shown a succession of leaves exhibiting the development from a circle. Set a stalk



FIG. 90.—Decorative animals.

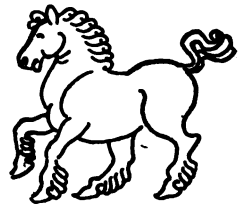


FIG. 91.—A decorative horse (from old Dutch pottery).

## LEAVES AND SERRATIONS

to a circle and you immediately give it growth, you give it a place at which the growth starts. Now since the tendency of plant-growth is to push outward, a point will naturally be formed in continuation of the direction of growth indicated by the stalk. It is evident that the way is open now to endless development.

In our next diagram we have illustrations of the development of the leaf into serrations. The simplest serration is that shown in D and E. The lobes are



FIG. 92. —Leaf developed from a circle.

semicircular, and the lines determining their positions radiate from some point not necessarily in the leaf.

If the serrations are placed at an angle a kind of progression along the border of the leaf is suggested. This is illustrated in F, G, H and J. I is round-lobed, as also is a trefoil or club-form and the shamrock.

The reason for the use of serrations is that they add patterns to the edges of the leaves. Their effect is at once sparkling and soft, for by their alternations of dark and light they give somewhat of a sparkling appearance to the design, while the alternation of the different tones of leaf and background produce a tone between the two in strength.

The animals in Figs. 90 and 91 are all serrated.



## DESIGN

Therefore, unless the serrations add sparkle or softness to the design, they should be omitted

There is no need to make special mention of the forms in Figs. 95 and 104—they explain themselves.

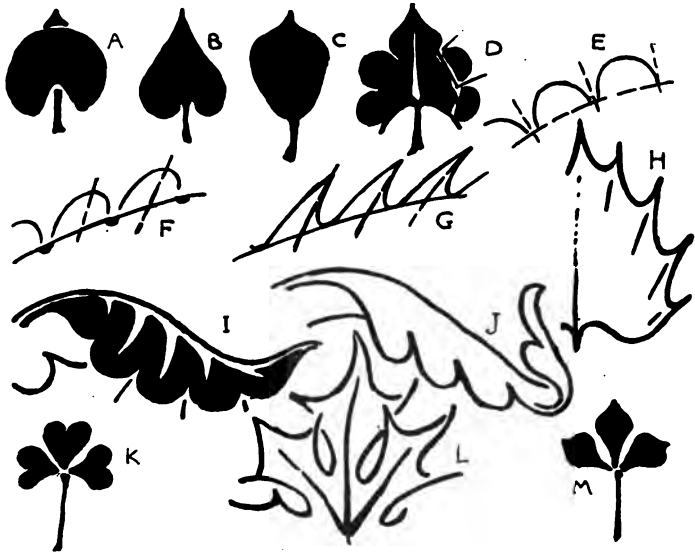


FIG. 93.—Development of serrations.

An interesting comparison is given in Fig. 96 of two ways of doing the same thing.

Whether the acanthus plant was called into requisition when the ornament of that name was invented is of little moment. The name acanthus stands now for a conventional foliage, which has little to do with the original plant. Indeed it is nothing more

## ACANTHUS FOLIAGE

or less than tangentiality and rectangulation in a concrete form. The leaves may be of almost any outline, and are roughly divisible into three classes—the square lobe, the symmetrical lobe and the unsymmetrical lobe. The square lobe is a useful variety, especially for beginners, because the mass of the leaf is retained. (Fig. 97.) To draw it one

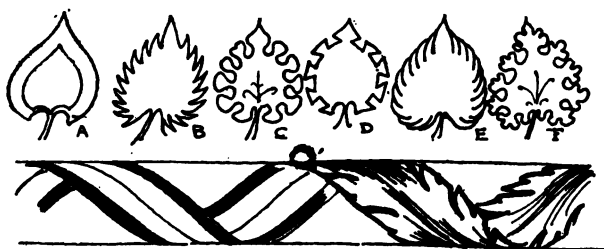


FIG. 94.—Serrations are patterns on the edge.

places the loops, or eyes, on a line more or less parallel to the outer edge. From eye to eye is the width of a lobe. Care must be taken when placing the eyes that the top, or central, lobe is proportionate to the rest. Through the eyes an anthemion system of radiating lines is drawn from the root to the leaf's edge. The leaf is thus divided into square lobes, which may be subdivided and softened as shown in the diagram, but the outward point must always be kept sharp and not rounded. A slight variation is to be seen in E, which is from Holbein.

## DESIGN

The symmetrical lobe has its two sides alike. It is drawn by getting the tips of the lobes marked on

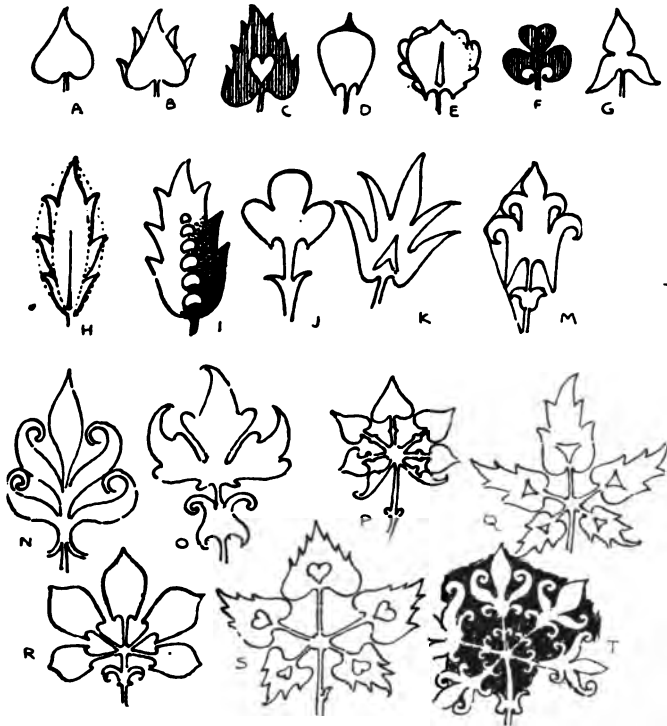


FIG. 95.—Single leaves and complex ones developed from them.

the outer line, and then drawing the *centre* lines in anthemion form, as the “pipe-lines” were in the square lobe. Beneath the symmetrical part of the lobe is usually another piece to fill up the gap which

## DEVELOPMENT OF ACANTHUS

would otherwise be made. Sometimes, however (especially in cinque-cento foliage), the gap is left



FIG. 96.—Pips from modern English and Old French playing cards.

open. Compare B and D, Fig. 98. In symmetrical lobes, whether with curved or angular heads, the

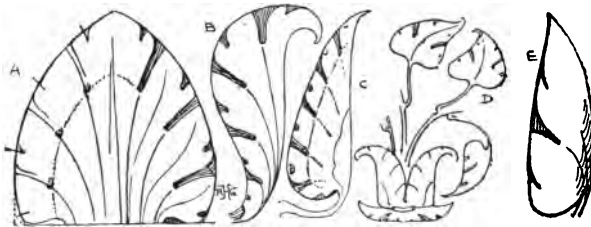


FIG. 97.—Square lobe acanthus.

cross lines which may be drawn joining the little eyes are at right angles to the centre lines of the lobes.

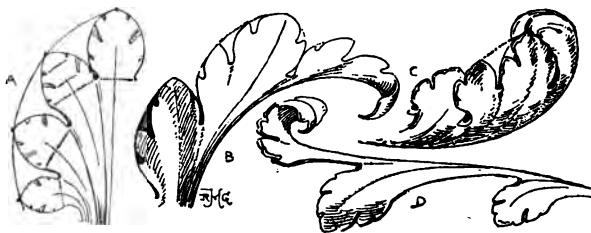


FIG. 98.—Symmetrical lobe acanthus.

## DESIGN

In the unsymmetrical lobes the cross lines joining the little eyes are not at right angles to the centre lines, but follow a radiating system as is indicated in dotted lines in Fig. 100.

There is of course no end to the variations which may be made in leaf forms, but perhaps sufficient examples have been given and enough said. We will only note in closing, that it is well if the

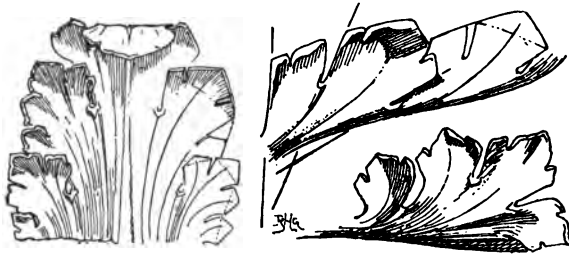


FIG. 99.—Angular symmetrical lobe acanthus.

leaf or other detail can be of the precise form of the space it has to occupy, as in A and C, Fig. 101. B in the same diagram shows the cross within a circle, a good method of attacking the space. A star, and a cross is a star, always goes well in a spiral. We will note too that by folding up the side of our leaf we can often adapt it more readily to its position, D. The folding also gives us many chances of adding variety and spirit to the work.

As soon as the student appreciates what is, and

## VALUE OF GOOD DETAILS

what is not, a good ornamental detail, he can consider himself a designer. The designing of details is truly not the whole of designing, nor even a con-

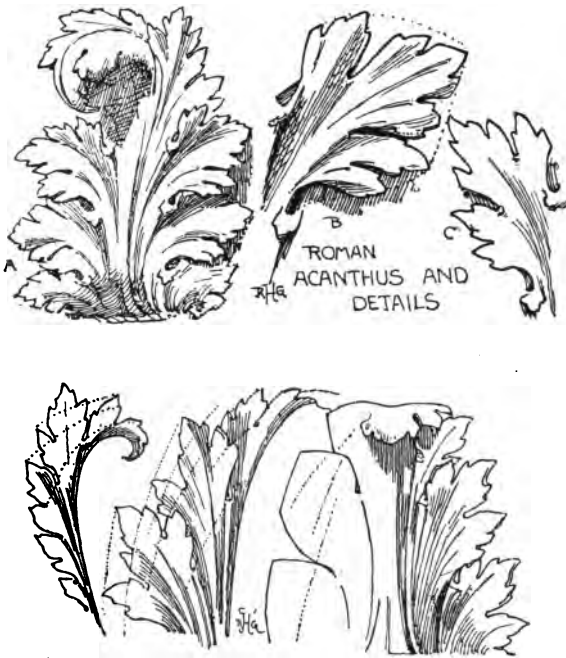


FIG. 100.—Unsymmetrical lobe acanthus.

siderable part of it, but it is a fair indication of an understanding of the subject and certifies that the student is proceeding in the right direction.

The chief consideration is *the pattern*. Do the details of the detail make a pattern? The detail is

## DESIGN

itself to be part of a pattern, and is itself to *be* a pattern. A comparison of A, B and C in Fig. 102 at once brings out the fact that B is more ornamental than A, and C than B. This is because



FIG. 101.—Leaves made the same shape as the spaces they occupy.

in C, (1) the area occupied is a consolidated mass approaching a square; (2) the somewhat square mass thus formed is divided by long flowing lines into subordinate masses; (3) the

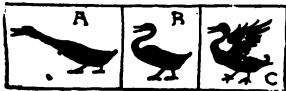


FIG. 102.—Three geese.—Variation of a detail.

smaller forms are related to one another rhythmically, sometimes, as the feathers in the wings, by a very obvious arrangement; (4) there is a

sufficient variety among the parts; (5) the area occupied is fairly covered by the dark form, that is to say, the white ground or field is practically all of it treated; (6) the main mass, or area, could be readily used in a square or a circle without there being any need for much additional form to cover

## SUITABILITY IN DETAILS

the space. None of these considerations apply to



FIG. 103.—Buttercup leaves and flower.

A, which violates them all, while B only partially fulfils the conditions enumerated.



## DESIGN

Besides and beyond the question of pattern there is that of *identity* or character. The lion must look lion-like, the fish fish-like, and so on.

It is not to be expected that at first this matter of identity can be given that amount of attention that is due to it. It is, however, a matter of very



FIG. 104.—Instances of variety of curvature.

great importance, for unless the student studies how to give the proper character to his forms he will lapse into the pictorial every time a natural object has to be represented.

It must never be thought that a thick line around the forms will convert a naturalistic drawing into a decorative “element,” or detail. The thick line will emphasize the decorative character of a form

## DECORATIVE ELEMENTS

already decorative, but it will not render decorative a form which is not so to begin with. Usually bold simplification must take place, and a few of the chief lines must be made to represent the movement or general form. The gesture or pose becomes of very great importance, and if it is secured, many oddities and peculiarities may be allowed to distinguish the details.

## XVI

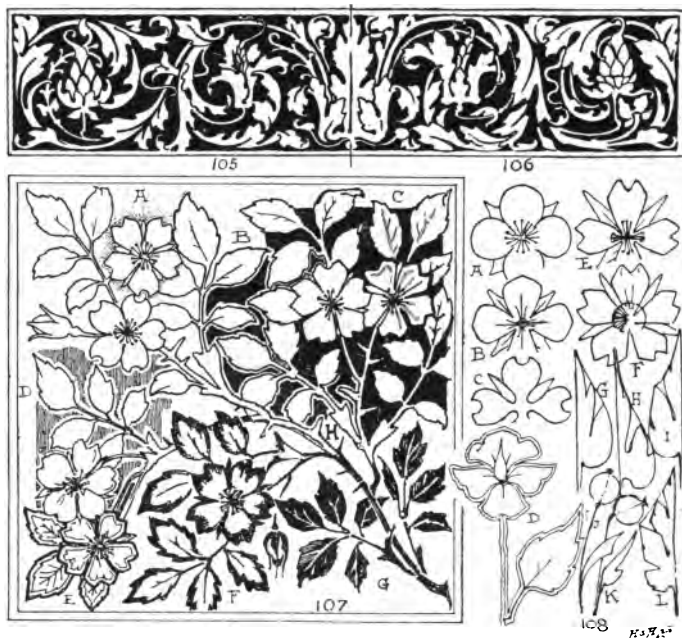
### METHODS OF DELINEATION

BEFORE attempting variations, the student should take several exercises in *silhouette*, as Figs. 105 and 107, c. A great deal of softness and interest can be introduced into such by varying the thickness and size of the parts, as is done in Fig. 105. Acanthus ornament is properly a *modelled* ornament, and so its true spirals, by their taking the shadow unequally, become softened from their sometimes irritating rotundity. Hence in using such ornament for flat decoration the spirals may be flattened, as in Fig. 106. Such a treatment is not rare in cinque-cento inlaid marble work. Compare also the spirals of Fig. 116, p. 120.

In Fig. 107 a number of different methods of line-work are given. Note the effect of the dotted tone behind the flower at A. The flower looks even whiter than the ground. This is because the dotted tone is dark against the flower, and graduated against the ground. When a line of white is preserved, as at B, care must be taken that it is of uniform thickness,

## VARIETIES OF LINE-WORK

though it may be made narrow where the broad white line would occupy too much space. The danger is confusion ; it would not be very beneficial to Figs. 105 and 106. In A, Fig. 107, the outline is part of the



FIGS. 105 to 108.

form, and therefore the white of the stems is very narrow. Care must be taken not to so outline a design if a dark background is to be added, for the outline gets lost in the ground, and the stem is expressed by a too thin white line. Hence, in c, Fig. 107, the

## DESIGN

outline was *outside* the form, and the shape of the thorns before the background was darkened looked clumsy, as does the one at H. A double outline, as in Fig. 108, D, gives a good effect ; but the stems are

troublesome, since, if originally double-lined, they swell enormously when the second outline is added. The example given seems tolerably successful.



FIG. 109.

In Fig. 108, A, B, C, E and F exhibit varieties of a flower : A is too geometric, and continually asserts its hard simplicity ; C is, perhaps, rather too curvilinear ; B and E are better ; while the addition of another petal, as

at F, relieves one of the necessity of noting the number of petals—the four are too easily counted. The other diagrams of the figure show other examples of softening the form, by breaking its rigid freehand-like form.

Fig. 109 exhibits, perhaps, the best kind of pen-work for designs. It is from an old woodcut in Dürer's style. There is absolutely no cross-hatching in it.

The student will, of course, remember that in outline work the *ends* of the lines are the most important part of them. This is truer of imitative

## OUTLINE AND BRUSH-WORK

drawing than of design ; but a design in which the points of leaves, etc., and junctions are scamped—sometimes gaps may be left with advantage—looks as mean as the workmanship.

It is best, for beginners especially, to *design with*



FIG. 110

*the brush.* To master effect, which is after all the soul of decoration, one must be able to handle masses, and these can only be effectively produced by the bold stroke of the brush. One may imitate the shape of a mass by tracing its outline, but its importance can only be felt by seizing its volume at once. Mistakes may be wiped out with a small

## DESIGN

sponge—a little piece fastened to a brush-handle is very handy; but if the colour used be weak at



FIG. 111.—Ivory carving, 12th century, exemplifying the use of a dark background of sufficient extent only to show up the forms.

first, strengthened as the design is determined on, the alterations will be hardly noticeable.

## DARK BACKGROUNDS

A dark background, unless kept at first in only such spots or flecks as suffice to reveal the forms (which it should not wholly surround), is sometimes a hazardous addition. Applied with reserve, so that vacant parts of the field can be turned into



FIG. 112.

ornaments, if need be, it is of great assistance. See Figs. 83 and 111.

One of the simplest forms of effective tone-work is perhaps that shown in Fig. 112. Two brushes should be used, but the important point to observe is that the *white lines* are equal and even. The turning over of leaves is shown in this figure, and,



## DESIGN

on a larger scale, in Fig. 113, o, where it can be seen how, though the outline is a curve, the centre line makes an angle. Such arrangements relieve the design of heaviness, and make the movement more sprightly.



FIG. 113

Designs are often spoiled by heavy borders, such as A, Fig. 113. Variation can easily be obtained, as is shown in B, C, D and E, and also in Fig. 112, by toning the border lightly and super-adding simple, regular forms, partaking chiefly of the longitudinal line. In E, Fig. 113, there is a

## TONES AND OUTLINES

*core* of circles or beads, for which the forms F to K may be taken as substitutes.

Fig. 113, L, shows variety obtained by different tones, while M shows that the outline may also be varied in tone. As a means of harmonizing, an outline of uniform tone or colour around all the ornament is useful, but sometimes a variety is better; thus, if on grey paper we have a figure, the costume of which is black, it will, perhaps, be better to outline the flesh in red, both because it is suggestive of the colour, is softer in effect, and adds variety. It is not a bad rule to outline colours with darker, or sometimes lighter, tones of themselves, as red with red, green with green, etc.

The examples in Fig. 114 almost speak for themselves, but I may call attention to the vivacity introduced in A by the dark spot at the base of the amphora, while the dark leaves add a rich depth rather than vivacity, because they are not so sharply in contrast with the ground.

In B the whole is outlined in grey, and the black outline outside the grey does not invade the interior of the forms. The leaf of B has, however, the outer outlines black *only*, and its inner grey. By both methods softness is obtained, but less in the leaf than in the flower. In C the inner outlines are black, to the consequent loss of decorative effect, which always requires a good observance of mass. This might be obtained in C by a heavier black outer

## DESIGN

outline. In D, which is in the manner of Giovanni da Udine and Giulio Romano, much softness is obtained by giving parts of the ground prominence by tones stronger than the ornament. Were the



FIG. 114.

dark and white patches of background around the important parts (as the heads), the effect would be blatant and vulgar ; but being against subordinate parts the figures retire. Note how the line descending from the central figure to the letter D is partly lost on the grey ground, and partly shown up on the black. By this treatment it assumes a somewhat piquant connection with the large spiral. Note, too,

## SPIRALS AND PAUSE-POINTS

that the form passing over D from the right to left does not pass tangentially up to the half-figure, but is somewhat at right angles to the leaf it abuts against. This is the preferable arrangement in this case. On the right side of this design will be seen a vertical "tree" passing through the spiral's centre. It is

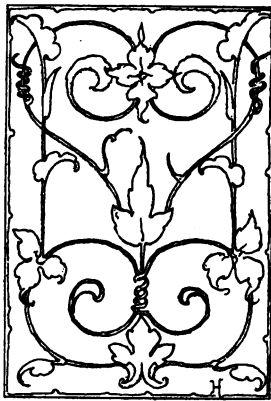


FIG. 115.

sometimes said that such can only pass through spirals at that point. The centre is certainly the chief pause-point of a spiral, and connections are made at pause-points, or rather pause-points grow at connections; but there is no reason why the pause-point and junction should not be on the spiral's curve, as in Fig. 115.

I give Fig. 116 from a Japanese printed fabric, because it is so good an example of spontaneous

## DESIGN

brush-work, and of the refreshing “accidents” in manipulation, which, however, only come when the hand is well trained in keeping the essential direction of lines—indicative, that is, of construction and



FIG. 116.

unification, or, in plainer words, of the anatomy, growth, and action of the leaves, and the technical completeness with which things radiate, or tangentially unite.

In Fig. 117, H, I and J, are given three examples of mediæval painted decoration, the object of the tones in which is not shading, but variety. So it is in F and G : G is the more conventional ; F is based

## USE OF SHADING

upon the light and shade which such forms modelled would take ; but there is, for all that, a great difference between the shading of F and of a modelled piece. There are no cast shadows, nor shadows on the



FIG 117.

ground. The idea should be, not one of deception, but merely of richness based upon the assumed modelling. Therefore the light tint and the dark tint should not only be as beautiful in form, and as explanatory of the ornamental lines as the general half-tint itself, but should also be of such an extent, and so harmoniously distributed, as to form a good tone-pattern. Above this design I give a

## DESIGN

few diagrams of the direction of the brush-marks. Do not consider each point the end of a rounded rib, as at c, nor paint the forms up as if they had a glassy surface with a seductive speck of high light. A very useful method of shading is a combination of radiating lines, as in A and B, with lines at right angles, as in E. The former expresses the ornamental form, the latter corrects stringiness. The modelling of the forms must be carefully observed, and on no account should the insipid rolls of c be used.

Consider the leaf A cut through transversely ; its section would be an *angular* line made up of varying lengths. But a section of the leaf c would be similar to that of corrugated iron, curved and equal. The leaf being supposed to be bent longitudinally, along its centre line that is, it will look stronger, fuller of accent and vigour, if its transverse section be angular.

## XVII

### LETTERING

No designer need account himself such if he be not particular of the form of his lettering. Owing largely to the facilities afforded by photographic reproduction and the great work of William Morris, the study of lettering has been revived, and much more beautiful founts of type are used by the printers.

Some few hints may be given to the designer which may assist him in this part of his work. Why did printers ever use ugly type? The reply seems to indicate what we shall find to be the chief antidote to ugliness in this matter. It seems more than probable that the rise in the mechanical arts placed unwarrantable emphasis upon certain geometrical forms—the square, the round, for example. Hence probably the expressions “nice and round,” “nice and square,” which one sometimes hears. We conclude then that in lettering there is no virtue in geometrical accuracy, except where the letters themselves demand it. An H, for instance, should have



## DESIGN

upright sides and its bar should be level. Very little sympathy should be shown for Hs with slanting sides—they are merely “fancy” shapes. An H properly is composed of vertical lines and a horizontal bar, and any deviation from those conditions



FIG. 118.—Roman Types. A.D. 1707 and 1538.

is a deviation from the intrinsic form of the letter. M on the other hand may have slanting sides or vertical sides. O, C and G need not be round, the identity of the letters is not limited by any such exact considerations. The first thing, therefore, the student has to do is to decide what are the intrinsic or necessary shapes of the letters, and in what degree the lines and curves, or the directions of them, are

## ROMAN LETTERING

fixed. The next care is for form. In Roman type a generous bold round curvature is more admirable than the squeezed variety. The thickness and thinness should not vary greatly. A degree of obliquity may with advantage be given to the forms, and the

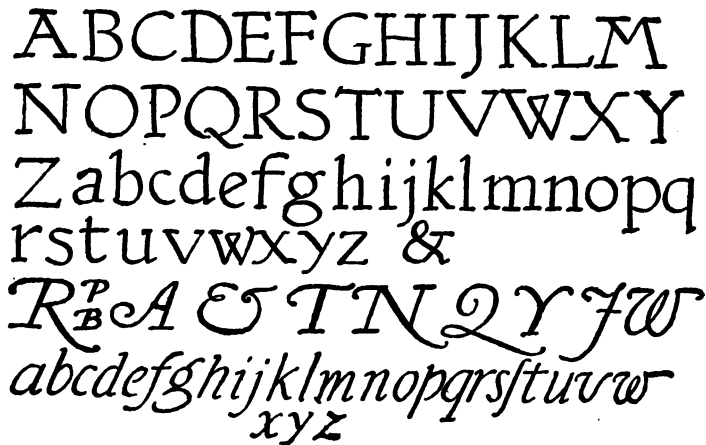


FIG. 119.—Roman and Italic both capital and minuscule.

terminations may slant instead of being at right angles to the lines they finish. The curve of D may rise slightly after it leaves the vertical stroke, and the lower part may be treated in the same way. P, B and R more or less follow suit in this matter. C, G and S need not bend their heads and tails up and down, but may end their curves in a somewhat level direction. All these matters are indicated in the illustrations, where they can be more advantage-

## DESIGN

ously recognized than in a description. Examples are given too of small and italic types, and of Gothic lettering. The earlier Gothic is round, is evidently developed from the Roman ; with which the later is not so readily connected. The straight vertical



FIG. 120.—1. Uncial ; 2. 9th century capital and minuscule ;  
3. Bayeux Tapestry ; 4. 13th century ; 5. 14th century.

lettering of the fifteenth century may be spaced out on vertical lines at equal distances, the spaces equalling the body of the letter.

A quill pen is the best instrument to design lettering with, the widening of the stroke occurring in a pleasant manner rather obliquely.

A distinction must of course be made between

## WRITTEN LETTERS & TYPE

lettering which is designed for type which is to stand the wear and tear of the press, and is to be made by a more or less mechanical process, and lettering which is to be written with pen or brush. The examples in Fig. 118 are all from type. This



FIG. 121.—15th century Gothic.

may account for the thickness of the serifs in places at the outside of the Ds and the N. The serifs are often very long when directed toward the middle of the letter, as in M and N in the upper set.

The following remarks apply to both type and written letters. A—the bar should not be low; there may be a top bar or serif. B—the curves should start fairly thick, but must not be thick where the two together touch the upright. See Fig.

## DESIGN

119. The curves should be roundish, not projecting far to the right, though they may be shallow, as in uncial, Fig. 120. C should be well curved, but the two ends need not curve down and up as if continuing a circle, but should tend to run level. D is sufficiently explained in the illustrations. Its curve must not be a mere semicircle. E and F should have their bars coming well out. The middle bar should not be short, nor should the top and bottom bars be purposely symmetrical. G follows the laws of C; indeed, as seen in Fig. 119, the curve need not rise at all, below, nor need the curve bend down much above. Of H, I, and J nothing need be said. K may have the slanting lines meeting at the upright. L usually has the serif at the end of its level bar, not vertical. M is a V put on legs, and may have the middle down to the bottom or not. N and P are sufficiently illustrated in Fig. 118. The loop of P does not always touch the upright. O and Q must have a degree of obliquity, and the tail of Q, like that of R, can have any direction that looks well. S, like C and G, need not curl round like a spiral, it may end rather with a level direction both above and below. T and U give no trouble, except that neither must be narrow. V sometimes has the serifs only on the inside; so sometimes has W, which is frequently further embellished by a crossed centre. Of X, Y, and Z there is little to say. The curved X of

## DIFFERENCES OF STYLE

Fig. 119 sometimes works pleasantly. Compare the Zs of Figs. 118 and 119.

Of the minuscule, or small letters, we need only pick out a few for special mention. Sometimes the ends are slanting, as is shown in Fig. 118 by dotted lines. The loops of b, d, q and p are not complete ovals, and they usually are slightly or even considerably oblique. The bar of f is level with the tops of the small letters, and it does not run very high up. The same applies to t, of which the cross-bar and tail should be fairly long.

If the reader applies the same kind of criticism to the other kinds of letters he will find various peculiarities which must not be overlooked by a designer. He will see too that the difference in the styles is due to a different movement of the hand. In uncial (Fig. 120, 1) the movement is somewhat languidly downward. In Caroline (2) it is boldly round, with a delicate emphasis on the terminations. In the Bayeux letters (3) there is a fine open style, boldly round and beautifully simple. These latter are of course not pen written. In the Gothic there comes in an oblique movement of the hand, which is evident in (4) and marked in (5), Fig. 120. These last capitals can be used with the upright English minuscule of Fig. 121, where in No. 7 a letter W is shown drawn with a pen and then thickened, more where it is thick, less where it is thin. Nos. 9 to 15 are varieties of one letter.

## XVIII

### SOME GEOMETRICAL ARRANGEMENTS

*Curves drawn by arcs of circles.*—It is sometimes an advantage to use instruments for drawing curves, and therefore I give the methods for obtaining the curve of ellipses and the four-centre arch.

The geometrical fact which permits arcs of circles to glide imperceptibly into one another, as though they were one curve drawn by freehand, is that the curve changes on a straight line containing also the centres of the circles (Fig. 122, Nos. 1 and 2). It will be apparent that those arcs fit together with least suddenness, and make the easiest curves, which are similar in radius. The arcs of a large and of a very small circle will not make a good junction, the geometrical means employed being too apparent.

In the case of the ellipses and four-centre arch a definite problem is worked. But curves, generally, may be represented by arcs, the size and radius of which are found by trial and guessing (Fig. 122, No. 3).

## USE OF COMPASSES

The ogee is drawn as follows (Fig. 122, No. 4):  
A and B are the two extremities of the ogee which is  
required to glide tangentially into the lines AC and

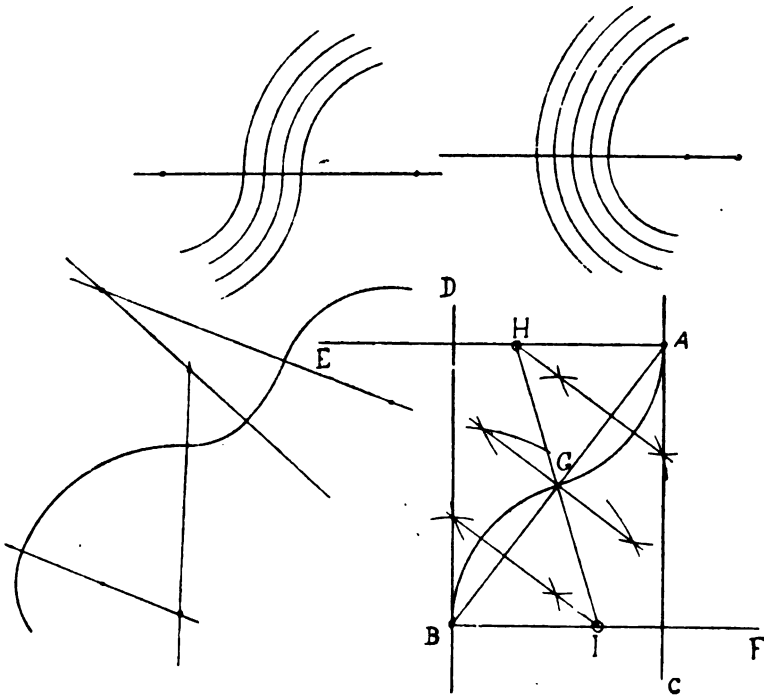


FIG. 122.

BD. Draw AE and BF at right angles to AC and BD.  
Bisect AB in G. Bisect AG and BG, and produce the  
lines of bisection till they cut AE and BF in H and I.  
H and I are the centres; the curve changes on the  
line HI.



## DESIGN

*The ellipse by arcs of circles* (Fig. 124).—Two methods given. No. 1 with four centres is worked thus :  $ax$  is half the long axis, and  $bx$  half the short, at right angles to one another. Describe the arc  $bc$ ,



FIG. 123.—A pattern set out on a geometrical basis. The curves are made up of arcs of circles.

cutting off  $xc$  equal to  $xb$ , leaving a remainder  $ac$ , which is half the difference between the length of the width and height of the whole ellipse. Join  $ab$ , and from it cut off from the  $b$  end,  $bd$  equal to  $ac$ . Bisect  $ad$ , and produce the line of bisection till it cut

## ELLIPSES, ETC.

AX in F and BX produced in E. The curve changes on the line through E and F.

No. 2 has eight centres. GY and HY are as before the halves of the two axes. Complete the rectangle

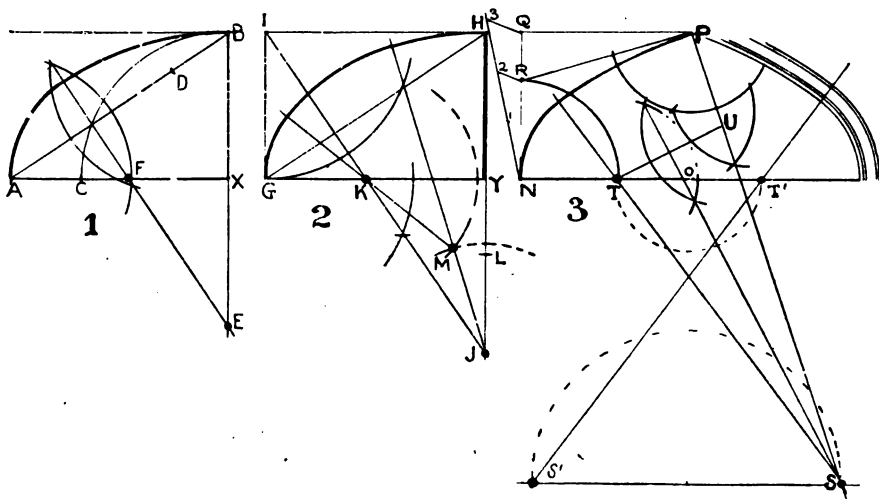


FIG. 124.

GYHI. From I draw a line perpendicular to the diagonal GH, cutting GY in K, and HY produced in J. J and K are two of the centres. Now subtract from the length JH the length GK, and with half the remainder as radius, describe arcs from J and K as centres, intersecting at M. This is the third centre. If the whole figure were drawn there would be two points J, two points K, and four points M. The

## DESIGN

curve changes on the lines  $jm$  produced, and  $mk$  produced.

*The four-centre arch* (Fig. 124, No. 3).— $no$  is half the width, and  $op$  the height. Complete the rectangle  $nopq$ . Place  $t$  where you like on  $no$ . Make  $nr$  equal to  $nt$ . Join  $rp$ , and draw  $ps$  perpendicular to  $rp$ . Mark off  $pu$  equal to  $nt$ . Join  $tu$ . Bisect  $tu$ , and continue the line of bisection till it cut  $ps$  in  $s$ .  $t$  and  $s$  are two of the centres.

Problem 1 was used in Fig. 123. It is important to notice that in finding the centre for concentric ellipses, the *innermost* should be taken for working the problem.

*Simple rectangular plannings*.—The arrangements in Fig. 125 are given as suitable for elementary design exercises. In many cases the two sides of a figure are the same in design, but different in the method of working. This difference consists in the fact that in one, say No. 5, the forms are first partitioned off by a thick line, on either side of which, a double line is drawn equi-distant from the thick one; while in the other, say No. 6, the place of the thick line is taken by a band or double line. The second is commenced in exactly the same way as the first, but, instead of the line being thickened, it is put in in pencil, and rubbed out after inking.

The bands should be kept equal in width throughout if they communicate with one another, as it seems to me they should. We must avoid the appearance

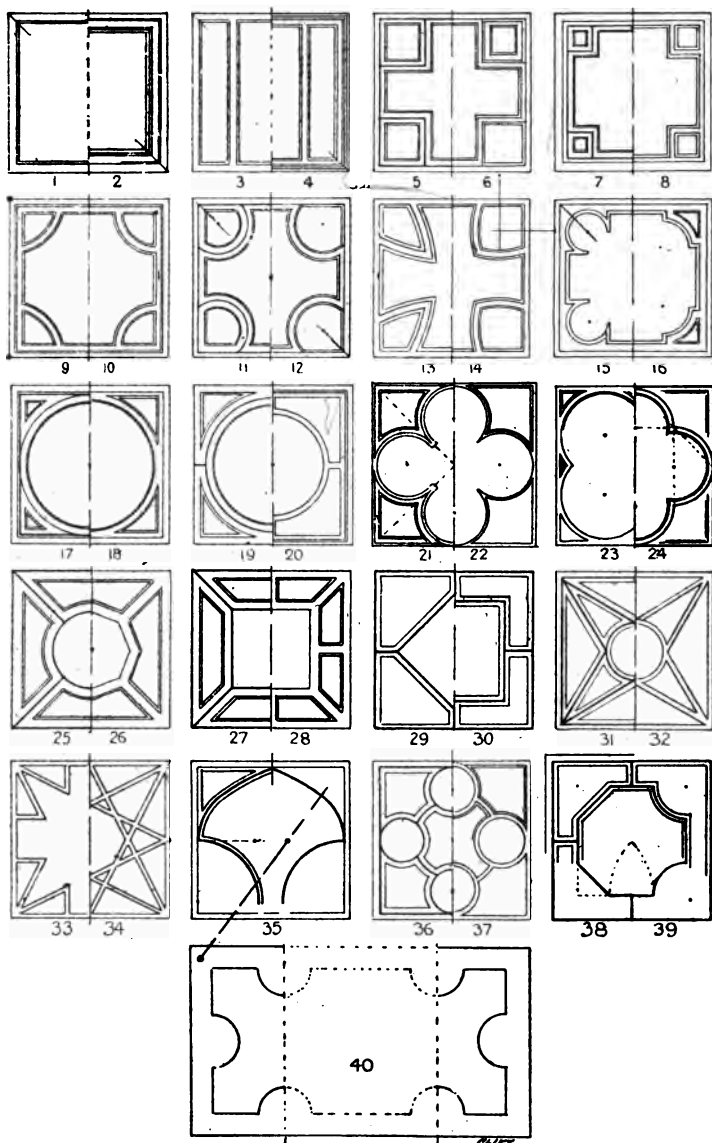


FIG. 125  
135

## DESIGN

of the different strips and circles having been made separately and pieced together. To do this let them be equal in width, and communicate ; so that one can wander throughout the design without meeting cross-lines. (See Nos. 3 and 4, Fig. 126.)

The lines mitre at a line bisecting the corner (Fig. 127, 8). Thus the mouldings to a rectangle mitre in a line at  $45^{\circ}$ . When executing a drawing in which such lines occur, it is well to draw lines bisecting the angles early, because one can utilize them immediately for carrying the lines round the form.

Some difficulty is occasionally experienced in fitting together geometrical shapes in contact, as a circle or a hexagon between two parallel lines. The examples in Fig. 127 illustrate the different treatments. In No. 1 the hexagon looks somewhat loose from the border, but the additional line about the forms, at the upper part, assists in combining them. In 3 and 4 the hexagon and circle coalesce with the border line ; the result being that the centre of the junction looks very thin. In 2 the hexagon partially overlaps the border. This also is the case in Nos. 18 and 34, Fig. 125. The safest ways are perhaps Nos. 6 and 7, Fig. 127. The difficulty is obviated by adopting a strap arrangement, which, where there is no construction to indicate, gives a lighter effect (Nos. 9 and 10).

The figures in Fig. 125 can, most of them, be lengthened into oblongs, as is No. 40.

In Fig. 126 a number of more elaborate partition-

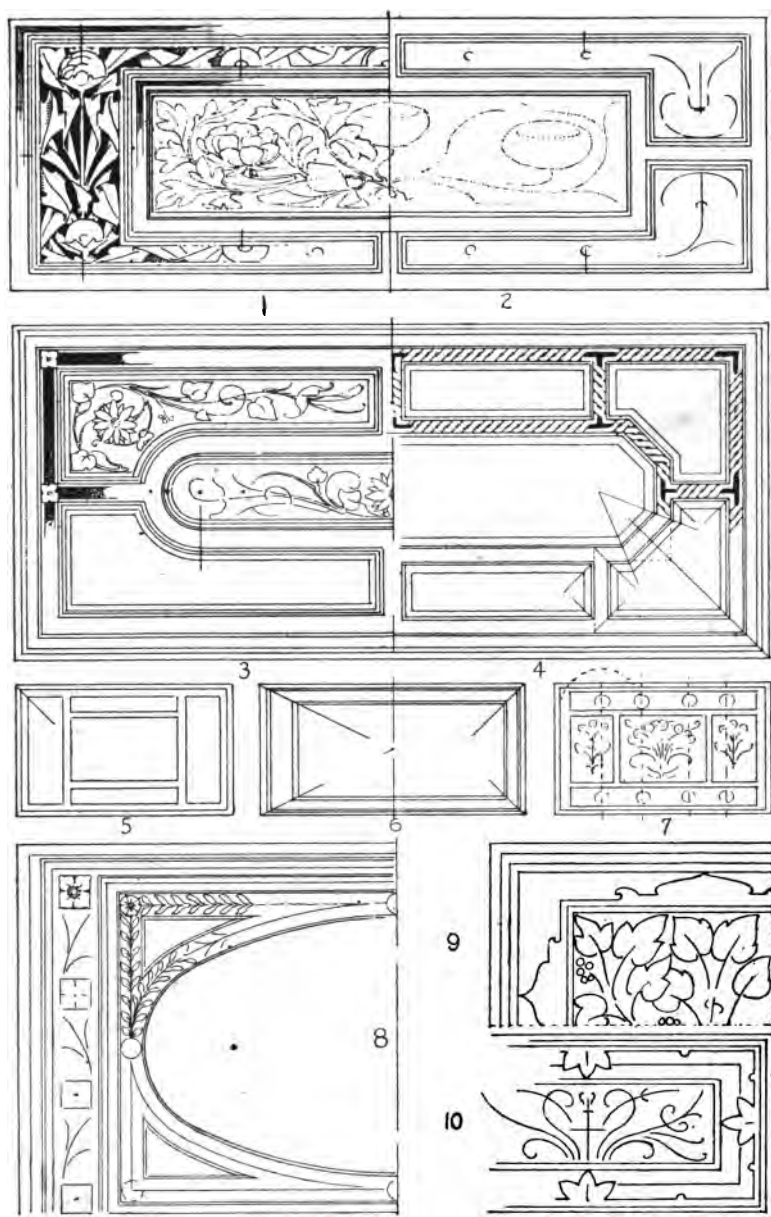


FIG. 126.  
137

## DESIGN

ings are given. No. 6 shows, on the left side, how the inner rectangles may be kept of the same proportions as the outer. On the right side it shows how, by retaining the border at the same width, the inner rectangles get longer proportionally. In No. 8 space is obtained at the end by greatly expanding the

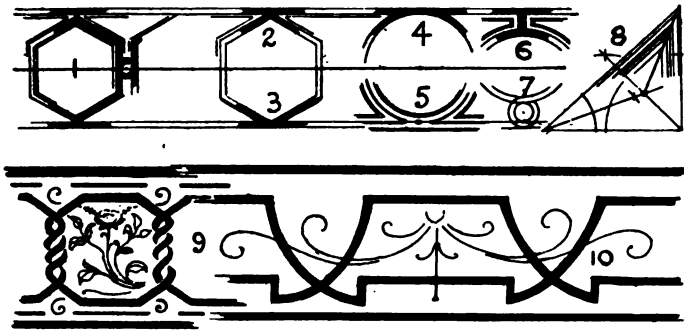


FIG. 127.

space between some of the lines, while many remain the same all round.

No. 7 shows how the decorations of the bands at the top and bottom need not occur over the decorations of the panel, or the divisions. Nos. 9 and 10 show how the filling may be reduced in extent. No. 1 indicates that a difference may be made between the treatment of the inner and outer spaces, the inner one being the freer.

The members of a moulding are usually more

## BORDER LINES

delicate towards the panel than towards the outside. If then we have a border composed of a band of ornament with four lines on either side of it, the spaces between the lines to look equal, then the spaces between those on the *inner side* should be slightly the narrower. The difference should not be perceptible, but if the spaces between were made equal on both sides the inner ones would look clumsy. The spaces between may also regularly increase or decrease towards the panel. The outer side of a border is however, always the stronger.



## XIX

### SETTING OUT REPEATING BORDERS

A BORDER is required to *progress*, to carry the eye along. No arrangement will do this better than *repetition*. For the eye always finds out similars, and unites them.

Where the repetition is very distinct and inclined to be spotty, there should be a good proportion of side lines, not to rail the pattern in, but to connect the spots.

There is nothing particularly difficult in a border if it were not for the *corner*. In modern times we have become rather particular that the ornament of the border should continue round the corner. In most old work the difficulty is evaded, a square ornament being placed at the corners at which the border design stops short. If we allow ourselves this method, we have only to consider what relation the corner-piece shall bear to the border in general characteristics.

If the ornament is to go round the corner, con-

## CORNERS OF BORDERS

siderable ingenuity will be required to produce an effect of perfect sequence between the straight part of the border and the part where it turns the corner. If we take the strip as shown in Fig. 128, and pivot it at the point A till it forms a right angle, we have a gap unfilled. If we pivot it at B we lose half a square from each side of the original joint. If we pivot it at C we have a small square gap unfilled, and lose two halves of small squares.

The first state, A, can be dealt with by an extra square added at the corner. If it happens that the two sides are in square repeats, one of these repeats will do for the corner. This is a method common in tile designs. See Fig. 144, page 153. If the border be made of a wandering strap, the strap will have to take altogether a new course at the corner, care being taken to make the piece added harmonize with what is already in the border. The curves of the strap at the corners should be of the same degree of curvature as in the border, although they may not make the same shapes.

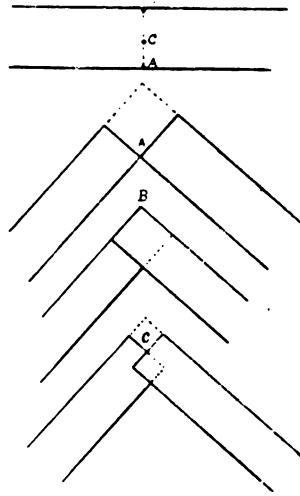


FIG. 128.

## DESIGN

Fig. 129 shows one method of treating a repeating border with a corner. A floral element is fixed near the corner, and repeated along the border. The distance between the repeats should not be less, but, by preference, greater than the distance of the first flower from the descending outer moulding of the corner. Between the two repeats a strap, or line, is

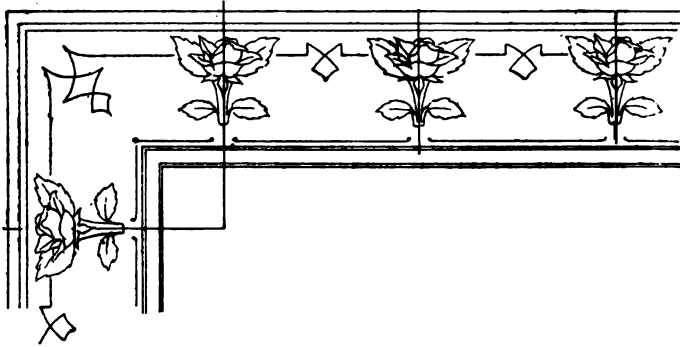


FIG. 129

“played with,” and forming a small knot, which can be expanded at the corner, as in the illustration.

Two matters seem to me of importance in designing corners. They should not be less heavily ornamented than the border generally, and the mitre line should, for reasons of “personality,” be rather lost than emphasized.

In Figs. 130 and 131 the elements are themselves in the corners, and placed equidistant from those of the border. The whole of the element cannot be

## DIFFERENT METHODS

equidistant from its neighbours. The part which is, is emphasized in tone, and occurs towards the inner side of the border. There is, in Fig. 130,

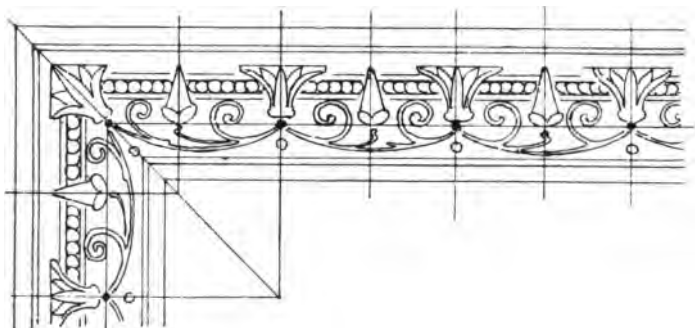


FIG. 130.



FIG. 131.

much more space between the flowers at the corner than in the border, necessitating the placing of the bud in a position not midway between the flowers.

In those borders in which two half-squares are

## DESIGN

lost, it may be observed that if we plot out these half-squares (the two together make a larger half-square) all along the border, and fill them with ornament independent of the rest of the filling, then, when one of them is sacrificed to permit the turning round of the corner, the pattern will exist perfectly well without it. This is done in Fig. 132.



FIG. 132.—Border in which a triangle is lost at the corner.

It must be borne in mind that, in designing borders on this triangle principle, the noticeable spots will occur at equal distances if placed on the centre of the slanting lines, as at A, Fig. 133. If they are sent higher up the slanting lines, as at B, the corner is too little ornamented, though this could be set right by adding other flowers, as at C. A safer way, when the flowers occur near the outer border, is to place them within the triangles, as at D and E.

## VARIOUS KINDS OF BORDERS

Fig. 134 shows a *diamond* repeat which fills the corner without alteration. The repeats on the one

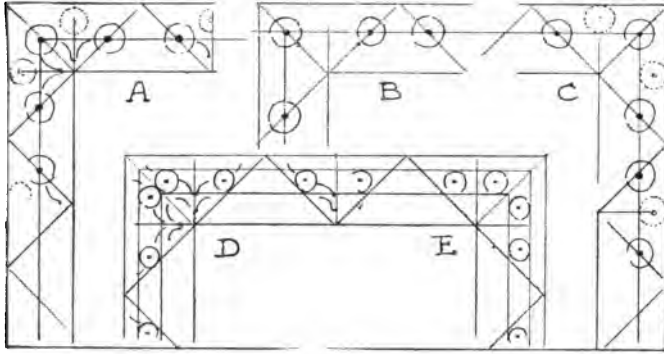


FIG. 133.

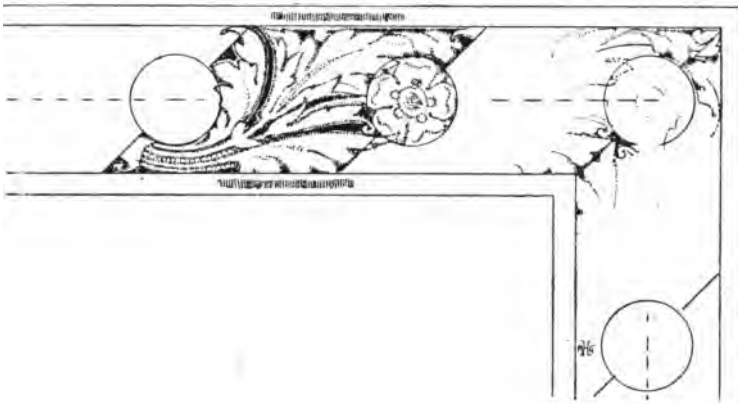


FIG. 134.—Border with diamond repeats reversed, with the mitre lines covered.

side are reversals of those on the other.

Such borders have, however, a movement *one way*

## DESIGN

in them, and require a change in the centre of each side, as is readily seen in Fig. 135.

The same difficulty presents itself with *trapezoid* repeats, Fig. 136, unless we agree to have stalks in two corners of the frame. In that figure I have arranged for a flower to cover the mitre at the

corner; the same has been done in Fig. 134.

In Oriental carpets the stalks often are found at two of the corners. In these cases the stem follows a course which forms trapezoids, in the middle of which, and not on the stems, occur the flowers. When the stems threaten to end in the other corners they are omitted at that

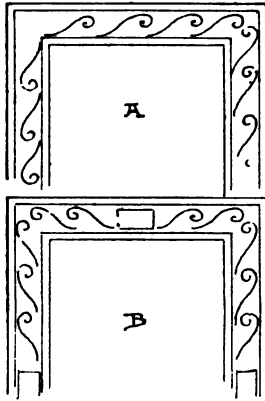


FIG. 135.

part, and leaves are substituted. Thus stems are avoided in all four corners, and a sense of growth is secured.

Another method of turning a corner is shown in Fig. 137.

This pivots on the flower; we gain, therefore, a small square gap, and lose two small half-squares, according to the principle of c, Fig. 128. The small gap gained by pivoting may be pushed round the corner to A, where it will not be objectionable.



FIG. 136.—Trapezoid reversed repeat covering the mitre line.



FIG. 137.—A border which will run all round without change or reversal.



## DESIGN

But it must be balanced by a gap in the ornament, B. This gap, B, will occur all along the border, but A will only occur at the corners. The idea is, of course, to lose A among the B's. The part wasted in Fig. 137—that is, the half-square at the inner side—is purposely left plain, c, c, and therefore no pattern is lost by closing it. This pattern will

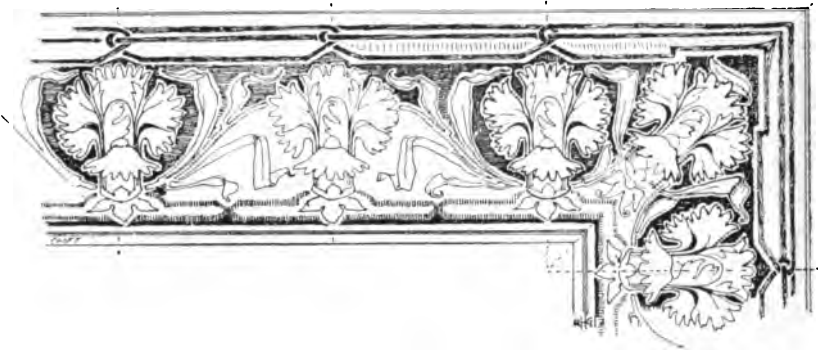


FIG. 138.

repeat all round, will turn the corner without alteration, without reversing, or any such addition as that in Fig. 135, B. This pattern, having an oblique kind of progression in it, would not, I think, be satisfactory going all round, but this does not condemn the method but merely the character of the design.

Fig. 138 illustrates the special designing of the corner, and the fact that it is best to make the corner rather richer than the border generally.

## XX

### ALL-OVER, OR ENDLESS PATTERNS

THESE are almost always "repeating." That is, a small piece, called a "repeat," is designed, and



FIG. 139. — Chinese setting of an all-over.

multiplied over the surface to be decorated. The same pattern may, therefore, be applied to different

## DESIGN

areas ; but it must be borne in mind that sometimes an area will be too great or too small for the pattern.

Broadly, there are two kinds of all-over patterns—



FIG. 140.—Sprig and strap.



FIG. 141.—Sprig and spray.

those in which a *spot* is repeated, and those in which the surface is first *subdivided* into definite spaces. The spot patterns, when floral forms are used, are called “sprig,” or “sprinkle” patterns. Take the interlacing band from Fig. 140, and the result is a

## DIAPER PATTERNS

sprig pattern. Chinese all-over patterns are designed on this plan, the spots occurring as the points of triangles. From these spots—flowers, as a rule—the ornament branches out in all directions.

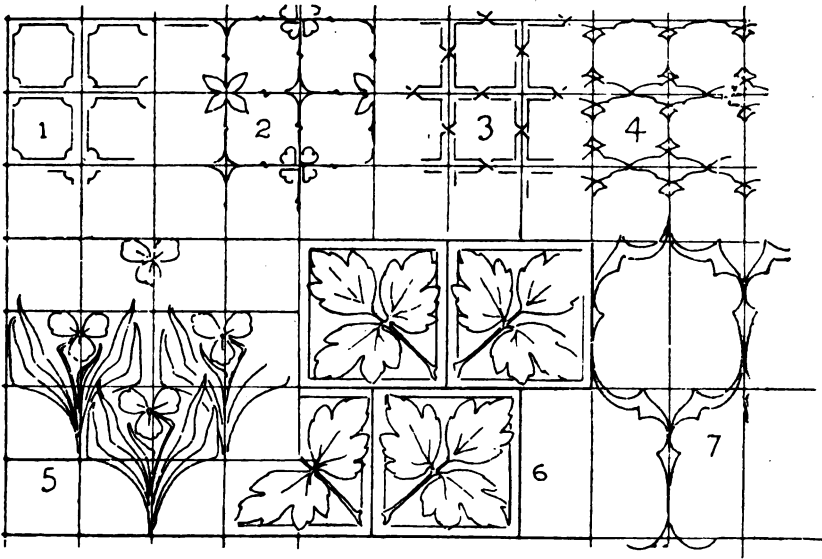


FIG. 142.—Diaper plannings.

Fig. 139 is designed in the Chinese manner.

The space between the sprigs may be filled by a wandering spray, as in Fig. 141. In Fig. 140 a wandering strap is used instead, making the design approach the diapers in arrangement.

*Diapers* are those patterns in which the surface is subdivided into definite spaces. No. 6, Fig. 142,

## DESIGN

shows that the squares need not be arranged in chess-board fashion. No. 2, Fig. 145, has the

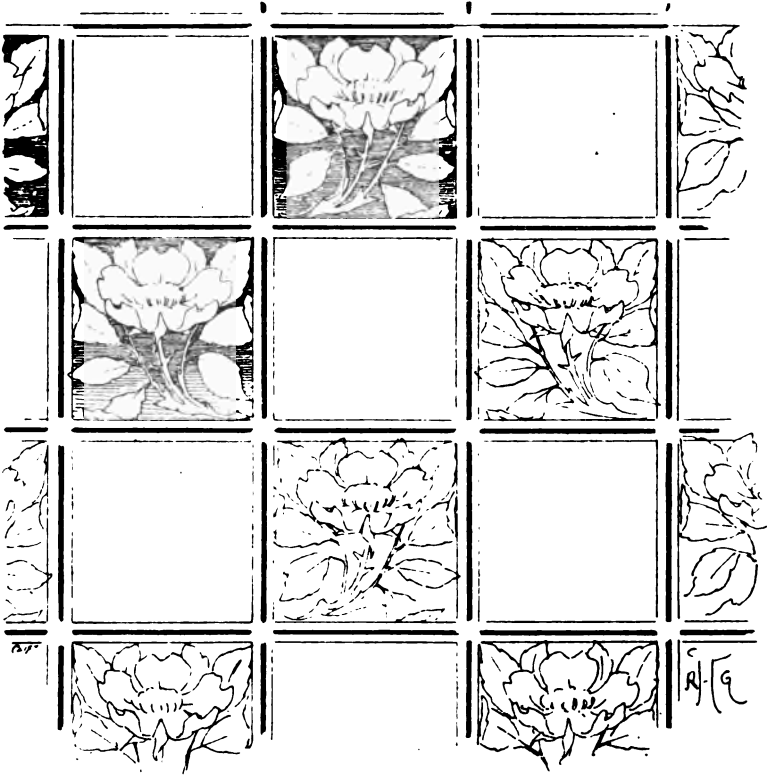


FIG. 143.—Diaper.

circles closer together than No. 1 ; to find their centres, get circle c, draw AD a tangent, on which,

## SQUARE REPEATS

with an arc of radius equal to the diameter of the circles, find D, the next centre required.

Sometimes the repeating quality of the design is very evident, as in Figs. 140 and 143; it may,

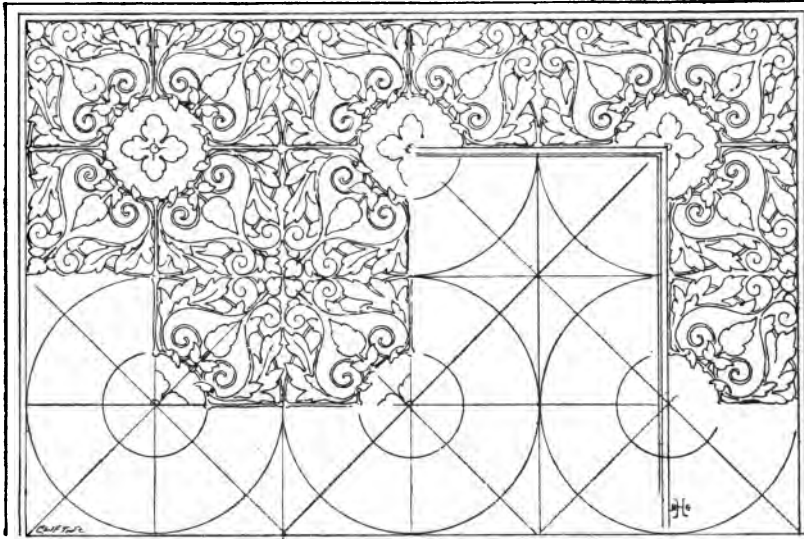


FIG. 144.

however, be entirely worked away and unnoticeable, as used to be the case with designs for wall-papers.

Fig. 144 is an example of a design kept within a rigid limit, a square, but which is not drawn at all, and may be unnoticeable. A spot design, too, may be so filled that the repeats do not attract attention (Fig. 148). The repeats may occur *side*

# DESIGN

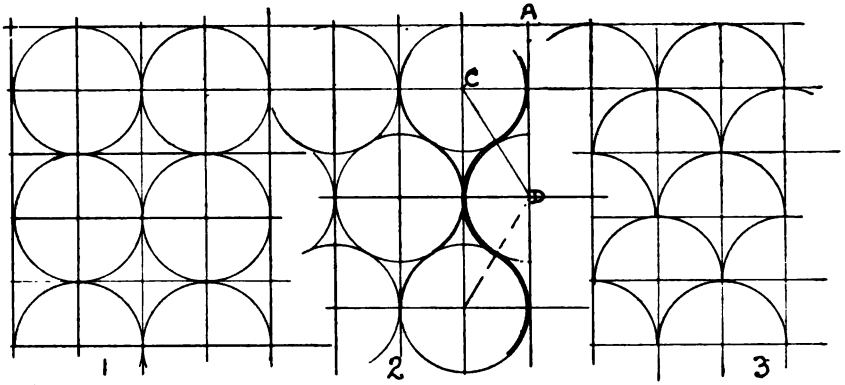


FIG. 145.

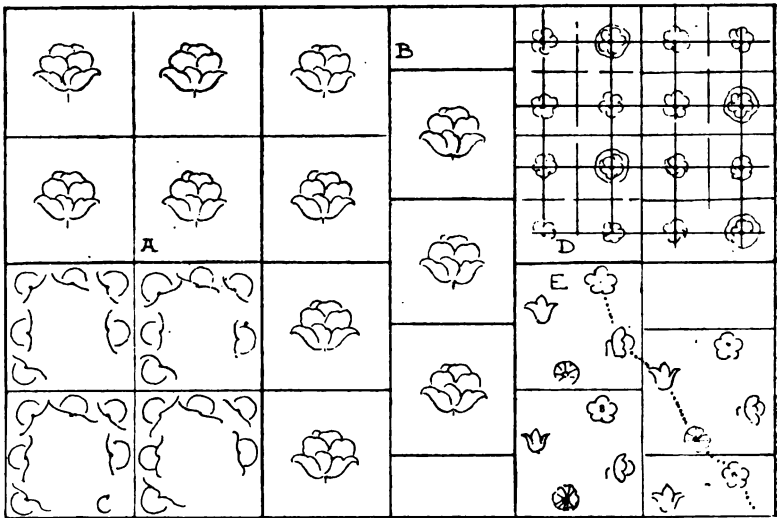


FIG. 146.

*to side*, or they may drop. In Fig. 146, A is a side-to-side repeat, while B is a drop. The pattern

## ‘ DROP ’ PATTERNS

exists in both in vertical strips, but in B, one strip is “dropped” the length of half a repeat. By this arrangement the flowers occur in diagonal, not horizontal, lines, which is sometimes an advantage ; indeed, the great difficulty in designing all-overs which have no definite divisions is in avoiding lines which

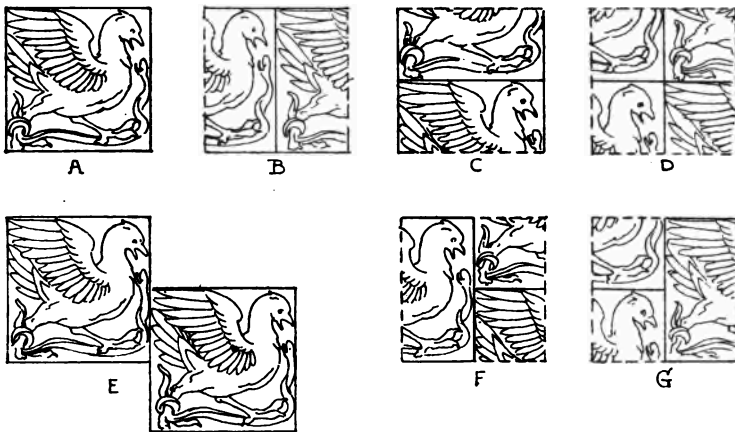


FIG. 147.

are not intended, but which “appear” when the repeats are multiplied over a large space. Hence, the wary paper-hanger shows one a pattern-book in which each design is represented by one repeat only, and which, of course, does not show the deficiencies of the pattern when hung. Care must be taken where the flowers and masses occur, though the only safe plan is to take the trouble to trace three



## DESIGN

or four repeats. A design for a *square* might very well have the flowers arranged as in c, Fig. 146; but as a repeat, whether a side-to-side or a drop, it would produce vertical bands. The arrangement

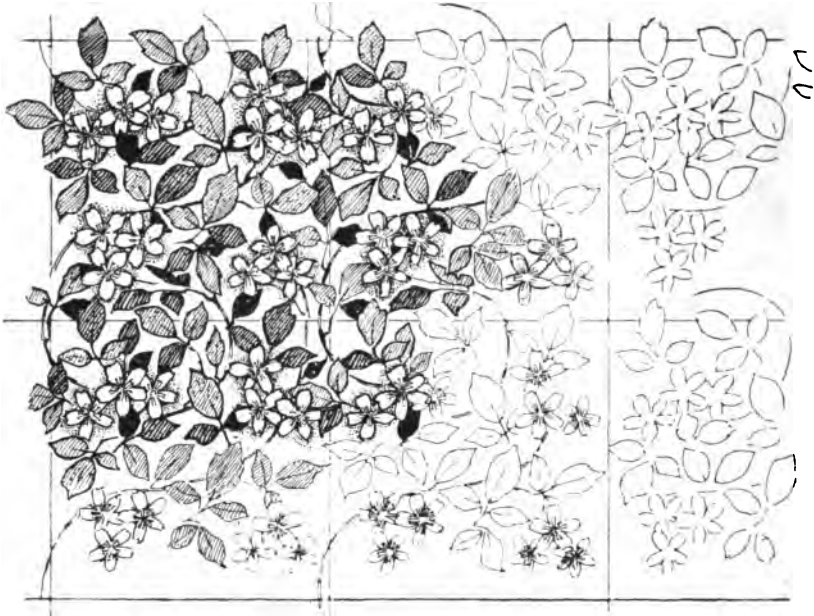


FIG. 148.—Side-to-side repeating pattern.

of D is architectural in character and preferable to E, which sometimes, however “careless” we may wish the arrangement to appear, develops oblique lines which were not intended.

Any one will easily understand that a repeat, when repeated, will have to be amended. Gaps will have

## ‘DROP’ PATTERNS

to be filled, and over-laps curtailed. This is best done by the process illustrated in Fig. 147. A is the repeat. If used for a side-to-side, the right side will come against the left side ; therefore if we cut

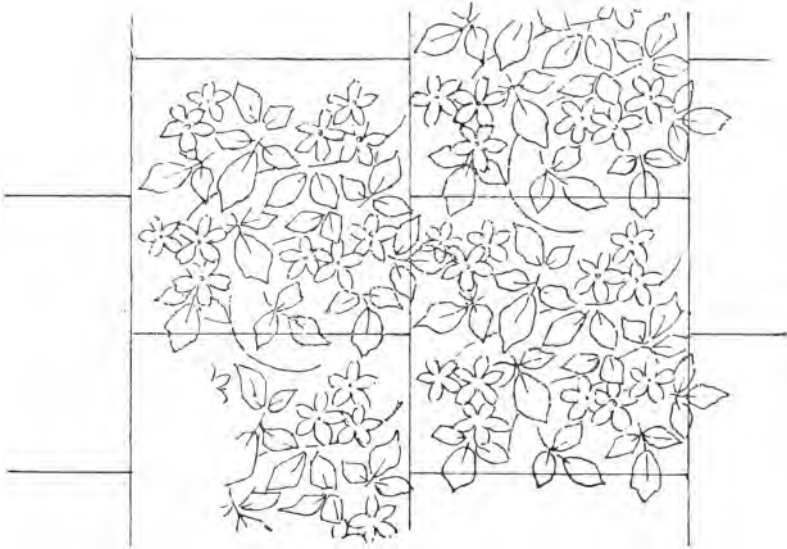


FIG. 149.—Drop repeating pattern, incomplete.

the design down the middle we can transpose the pieces, as is shown in B. Similarly we can fit the top to the bottom, as in C, by cutting the repeat across the middle ; and, again, the meeting of four squares can be managed as at D. E is the same repeat dropped. To test the design in this position,

## DESIGN

cut the repeat in four, as before, and use the combinations c, f and g.

Fig. 148 is a side-to-side repeat with the gaps filled up on the left side only. Fig. 149 is the same repeat arranged as a "drop," the gaps untouched.

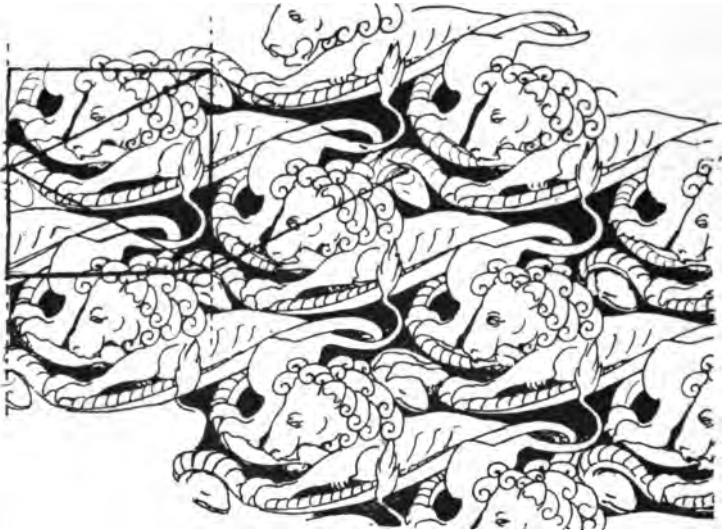


FIG. 150.—Drop repeating pattern, the design extending over two repeats.

The pattern may extend over two contiguous repeats (Fig. 150) if each repeat contains only one-half of the design ; it may extend over three repeats if only one-third of the design is on each. If this be done with a side-to-side, the design will, of course, have one end at the top of one repeat and the other

## WIDE PATTERNS

end at the bottom of the next, and so will be obliquely placed. If, however, the pattern drop, the design can lie horizontally. Hence for such patterns a drop is generally used, and is designed most handily on a diamond. This is illustrated in Fig. 150. The square on the left side is the repeat, but the design was made on the diamond which extends over it. When drawing the animal's head, it was, of course, known that whatever extended beyond the north-west line of the diamond would have to appear above the south-east line. In one repeat we have parts of three lions.

Figs. 151 to 157 are reproductions of Japanese stencils, as also is Fig. 41. In Fig. 151 we observe a fine vigour, produced largely by the strong sinuous flowing lines passing horizontally across the pattern through the leaf forms. The whole composition is, in fact, alive. The "explosive" radiation in the details of the leaves, accompanied as it is with bold contrast of tone, gives a very vivacious effect. The small spots all over the background are roughly pentagonal, and occur alternately point up and point down. This hardly perceptible variation contributes, no doubt, to the feeling of movement there is in the pattern. Fig. 152 shows a much more solemn and architectural composition. Severe as is the planning, there is plenty of vivacity in the details, which are by no means mechanical. In all these patterns the different densities are

## DESIGN

well allotted. In each one can at once distinguish



FIG. 151.—Japanese stencil.



FIG. 152.—Japanese stencil.

the white part, the pale part, the grey part, the dusky part, the rich dark part, and the black. Note

## JAPANESE STENCILS

particularly the little quatrefoils which occur, where



FIG. 153.—Japanese stencil.



FIG. 154.—Japanese stencil.

the lines cross, in Fig. 155. It is noteworthy, too, that in Fig. 157 some of the little plants are upside down.

## DESIGN

Figs. 158 and 159 are all-over patterns, in the style advocated in the earlier part of the book. Fig. 158 is composed of rows of squares edge to edge, the rows separated by a broad white band.

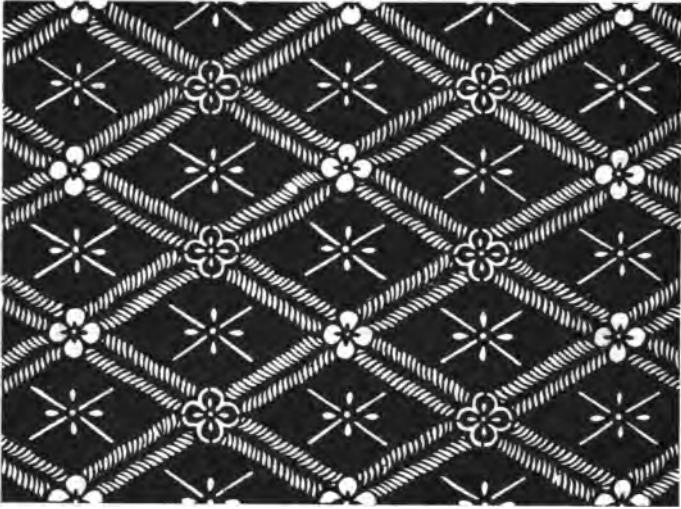


FIG. 155.—Japanese stencil.

The white band is decorated with a zigzag line, while the squares themselves contain white circles. Such are the architectural and sub-architectural lines upon which the pattern is built. The zigzag line is allowed to be a stem, or rather stems, and is not kept rigidly straight. The circle is allowed to be a leaf, and to depart somewhat from its cir-

## PLANNING 'ALL-OVERS'

cularity. The square is filled with masses and sinuous lines—the masses kept full, broad, and

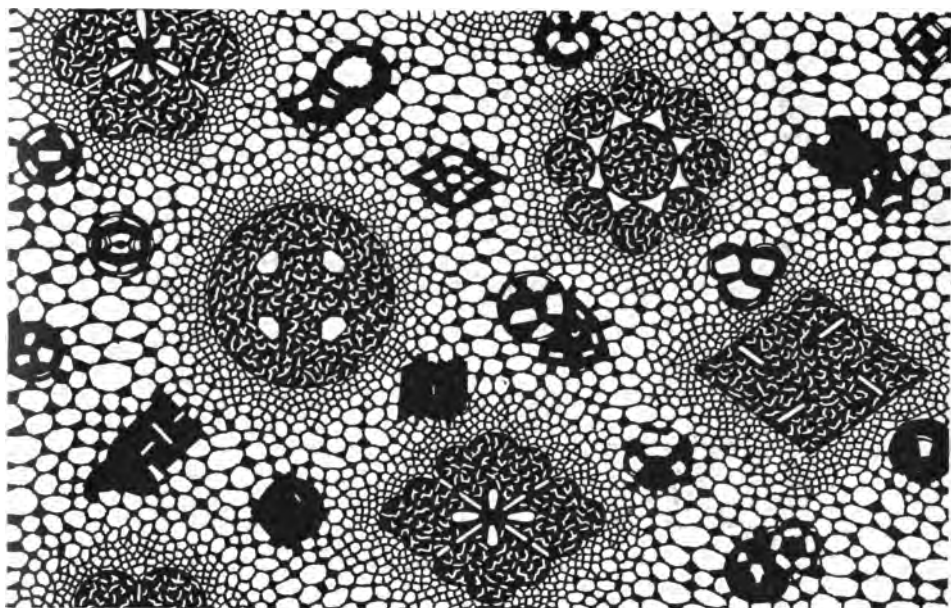


FIG. 156.—Japanese stencil.

simple. The square is not absolutely kept, indeed it is more or less lost.

In Fig. 159 the pattern is based upon the system of circles given in Fig. 145, 2, but then again, after doing their work as the means of stiffening the pattern, they are neglected or forgotten.



## DESIGN

Figs. 158 and 159 both illustrate that an “all over” can be treated by *wavy lines wandering among*

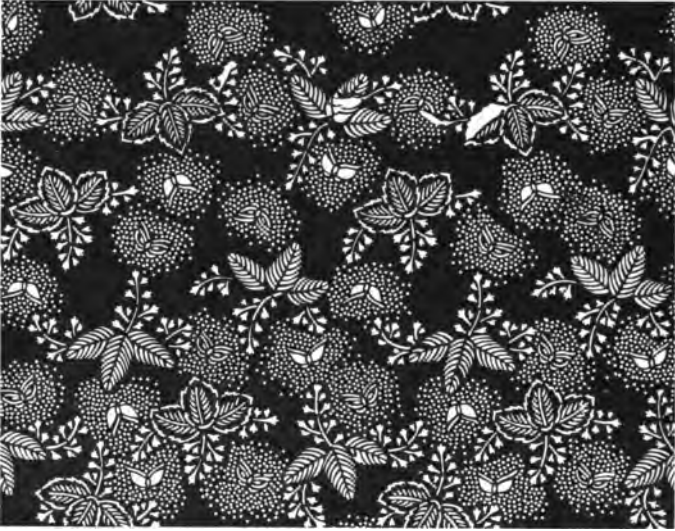


FIG. 157.—Japanese stencil.

*leaves.* In these five italicized words is a complete rule for design. Its application in borders is seen in Figs. 14, 39 K, 45, 50, 52, 81, 83, etc.

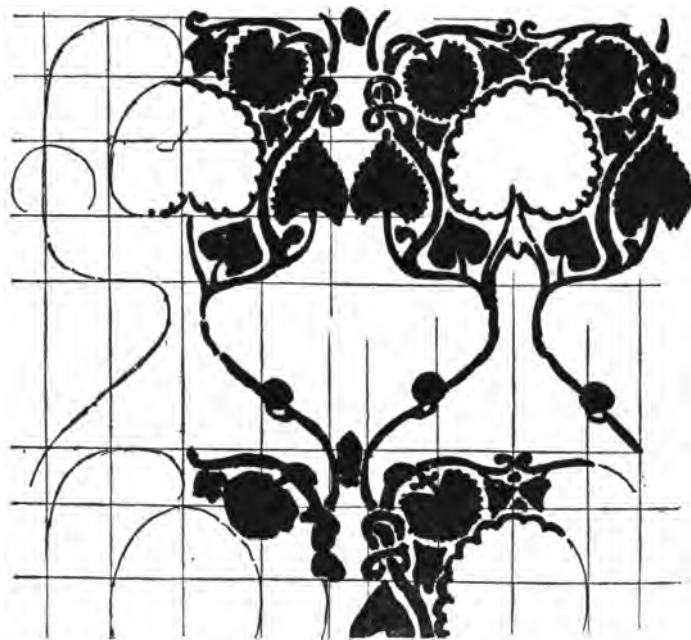


FIG. 158.—Influence of geometrical lines.

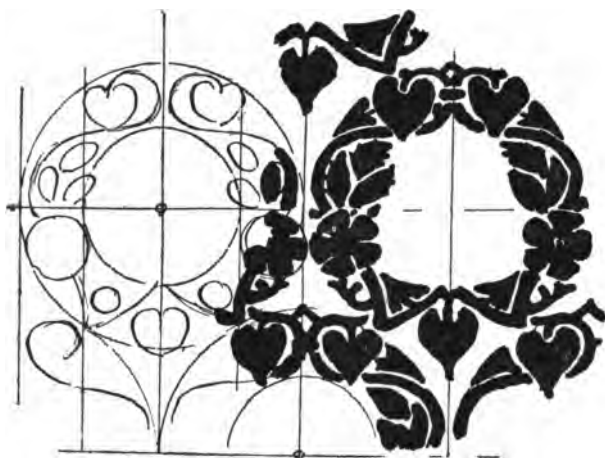


FIG. 159.—Influence of geometrical lines.

## XXI

### ON PRACTICAL DESIGNING

WHEN we actually proceed to make a design for a particular thing, what must we do? We must consider the object itself. We must, in the first place, note down all facts about use, position, and convenience. For a while we must be engineers rather than artists, and merely seek to supply in the most reasonable manner, the utilitarian demands of the case. Work of this kind is not beneath the designer's notice. Your capable designer is generally very glad to have the problem to deal with, and finds, in the curious necessities of particular instances, great assistance in evolving an interesting composition.

It is to be feared that the agility of mind which is so essential a characteristic of the designer, is not to be acquired by either study or training. To be able to make use of one's chances is a gift with which all who essay designing are not endowed, and one may well wonder whether it is any use trying to help those who cannot help themselves.

## SETTLING THE FORM

Nevertheless there are one or two suggestions which may assist the beginner. I have already said he must find out frankly what his object is to be, practically,—he must start as a builder, or engineer, not as a decorator. Even if suggestions do not arise which lead to some magnificent idea,

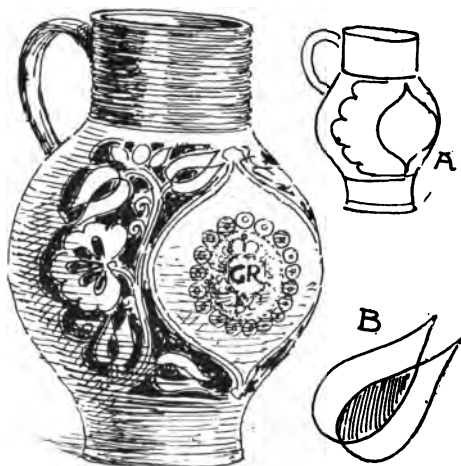


FIG. 160.—A Fulham flagon.

there is at least a definite, tangible, set of conditions and volume of material, which serve very well as a start.

In both the flagon of Fig. 160 and the chest of Fig. 161 there is a sound reasonable object independent of the decoration.

My next suggestion is that the designer, having done his engineering, should decorate his object in

## DESIGN

a simple, common-sense manner, which may be summarized as follows—

Effect depends on contrast, not necessarily sharp, of *tone* (which includes colour), and in contrast of *voids and solids*. (I have employed the word “void” as meaning not merely any vacancy, but a

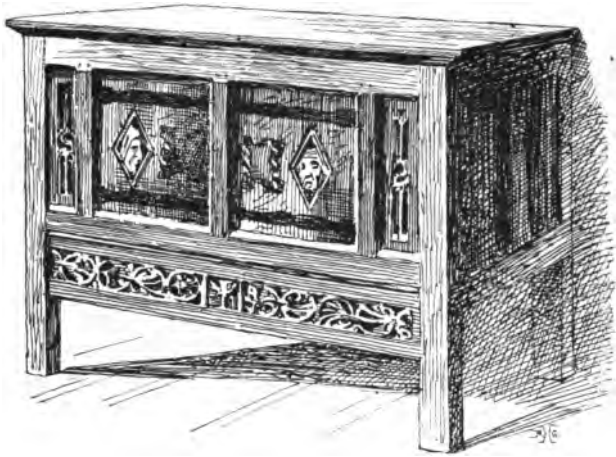


FIG. 161.—A chest. (South Kensington.)

portion of a work in which there occur so many holes, or hollows, sufficiently close together, as to destroy the solid appearance of that part. In a “solid” part there may be holes and hollows, but they must not be such as to interfere with the appearance of solidity.) Do the engineering necessities provide these differences, which are to contrast with one another? If they do not, the differences

## BLACKS AND WHITES FIXED

must be introduced somehow or other. Usually voids and solids provide one's darks and lights—one's differences of tone. This is the case in  $\sigma$  and  $\kappa$ , Fig. 39. Whenever one's design lacks pluck one should attend to the voids and solids, and see if some of the parts cannot be honeycombed. The Corinthian capital is a good example of a *void* interposed between solids. I would advise the beginner to get into the habit of seeing if he cannot introduce some "voids" or a "void" as soon as his object is at all set up.

Whether he employ voids and solids or tones, the designer has, then, to see that he has two or three grades of them in his design, and to see that they are well adjusted to one another. It is no use only gazing at a drawing to find out if its parts are well adjusted. *An alternative must be proposed*, and a choice made. And the alternative must not merely be a fancy in the head, it must be shown by a careful drawing, or a model. Thus, and thus only, will your backward person get on.

To make tones we might merely paint on a dark tint, as in Fig. 9, but we can get them by patterning, and patterning is our present task. This is illustrated in Fig. 162.

The illustrations which follow emphasize this and other matters. Figs. 163, 164, and 165 are patterns unapplied to any purpose. They are all from the buttercup, of which studies are given in Fig. 103.

## DESIGN

In each case there are architectural, and in Fig. 164, sub-architectural, lines scored on the paper, and the design adapts itself more or less to them. To the backward person I would say—where are to be your dark parts? Let the question be answered mechanically—in the middle, top, bottom, and so on. *Let each of these mechanically suggested*

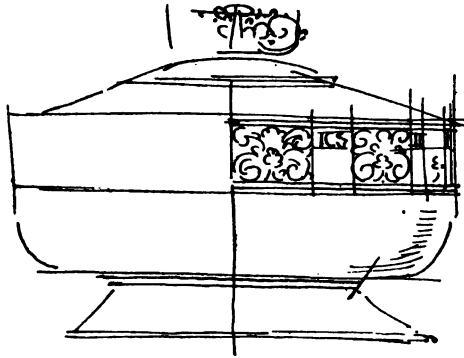


FIG. 162.—A covered bowl.

*ideas have a fair chance.* Or again, if an idea is wanted, try a square, two squares, three squares, or failing a square, a circle, two circles, or those failing, try a pentagon, a triangle. If all these fail, try star forms—a cross, a star. All these suggestions are merely mechanically made, being the substitution of one form of a particular class for another of the same class. There is surely little ability required to propose such alternatives as these, and yet such

## GEOMETRICAL SCAFFOLDING

alternatives serve quite well. A very little difference in the stated idea, or plan, of the work, makes a very great difference in the effect. The lines scored on Fig. 168 differ very little from those on Fig. 167, but the result is very marked.

When the general plan of the work is more or

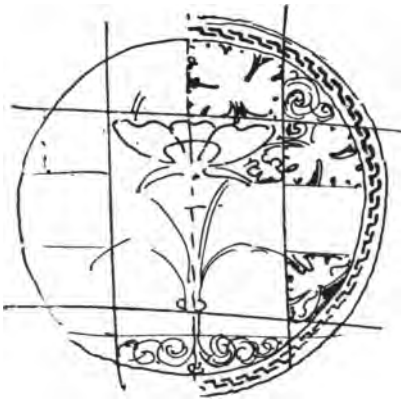


FIG. 163.

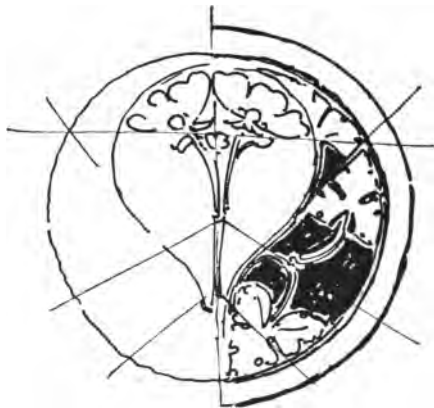


FIG. 164.

less settled, one converts the somewhat geometrical scaffolding it gives, into different tones, as has been said, by introducing ornamental elements, and so arranging them that they and their background are so co-related as to secure the desired tones.

Now it is well if the designer's pencil, when this task is undertaken easily, as if by habit and nature, draws forms which rank at once as ornamental,



## DESIGN

such as those in Figs. 34, 51, 54, and 95, forms which can be placed alone in the middle of a space, and require no other forms to balance them into patterns. If a student have one well-digested form of this character at his command, he can at least do



FIG. 165.

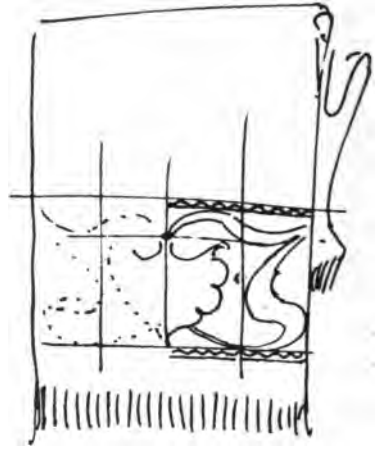


FIG. 166.

*some* designing. By well-digested, I mean that its ready conversion to a long, or a broad, or curved form, is possible, and has been rehearsed.

If the beginner will confine his efforts within the bounds of these few suggestions, I do not doubt of his acquiring some facility in design.

As to historic styles, of course the designer should study them, but I cannot but think that one's real

## PARTS VARIED IN TONE

progress is made by one's attacking the whole problem of building and decorating, as if one had no assistance from the past whatever.

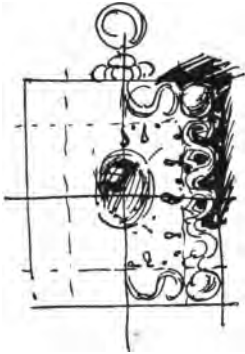


FIG. 167.

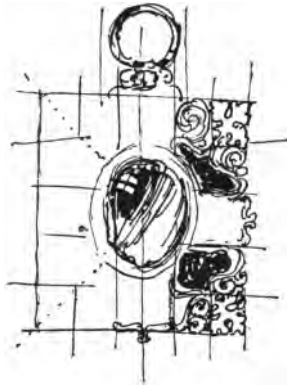


FIG. 168.

There are many details of technicality in all processes which can only be known to those whose

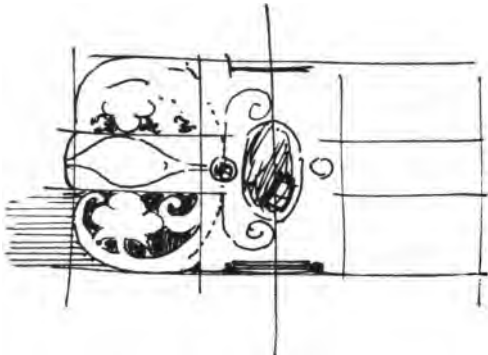


FIG. 169.

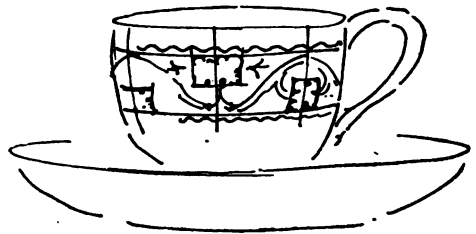


FIG. 170.

## DESIGN

acquaintance with those processes is considerable, but these details are usually not so important as to

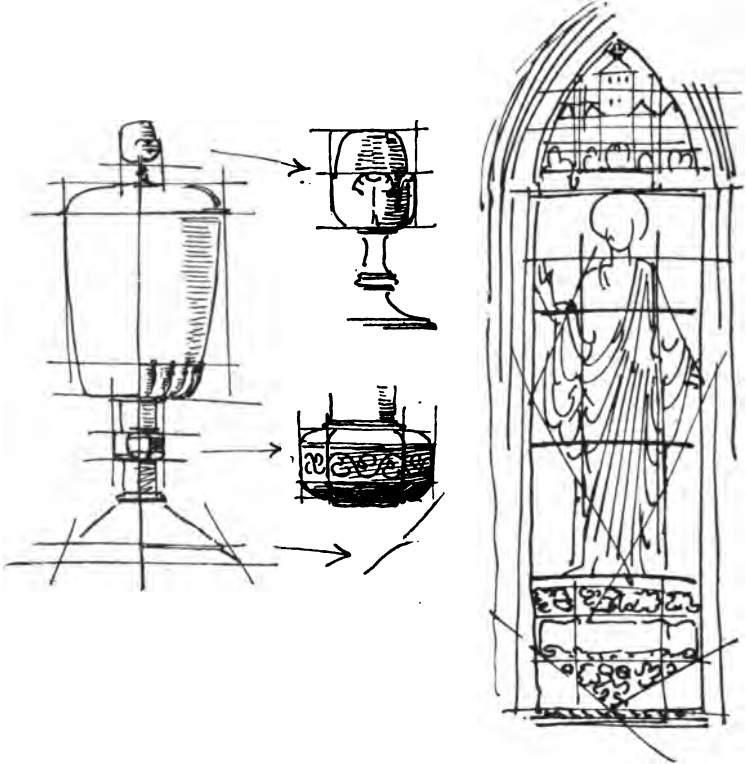


FIG. 171.

FIG. 172.

deter one's designing for the particular craft they refer to. Many of the trade ways and means are not at all necessary. Construction may, after all, be very simple. *If the designer will only be careful*

## PRACTICABILITY

*to see that he thinks a piece of work could be done in this way or that, and goes into the whole matter thoroughly, as if he with his little knowledge were to do the work, then there is little doubt of his producing a possible design. He will, of course, make full-*



FIG. 173.—A, a non-constructive, B, a constructive treatment of a cabinet corner.

size working drawings in plan elevation, and section of, at least, all the joints, for only by so doing can he be sure he has dealt with every detail.

Before beginning a work a designer should tabulate his knowledge of the craft he is to design for ; and he will find it always fall under three heads—of

## DESIGN

what size is the material, how is it joined, how is it decorated? If he does this *before* he begins his design, he will be more likely to design with ease and success.

The following notes on the technique of wood-work and metal-work may be useful to those who have not yet studied these crafts.

The main technicalities of wood-work are as follows: The timber will be in boards and in pieces or battens of stout section. The boards will be from  $\frac{1}{2}$  to 2 inches in thickness, and from 7 to 16 inches in width. An inch board (1 inch thick) is a stout board, indeed one inch planed, coming down to about  $\frac{7}{8}$ , is a good thickness for ordinary furniture;  $\frac{1}{2}$  inch will do very well for panels, though they may be made of thicker stuff if any relief is required. For turned legs of tables and the like 4 to 5 inches will not be too thick, as the turning takes away a great deal of bulk, but for ordinary uprights 2 or  $2\frac{1}{4}$  inches is stout enough. For frame-work, wood  $2\frac{1}{2} \times \frac{7}{8}$ ,  $2\frac{3}{4} \times 1$ ,  $3 \times 1\frac{1}{8}$  or  $3 \times 1$ , and sometimes  $4 \times 1$  or  $1\frac{1}{4}$  are sufficient. Smaller frame-work as for doors of cupboards is of smaller scantling. For screens and partitions where lateral pressure has to be withstood the timbers will be, say from  $7 \times 3$  to  $2 \times 3$  inches in section. Mouldings will, however, reduce these dimensions so far as bulk is concerned.

The chief joints are the mortice and tenon and dove-tail, and with these alone the student can manage very well. Panels are set in grooves

# JOINTS IN WOOD-WORK

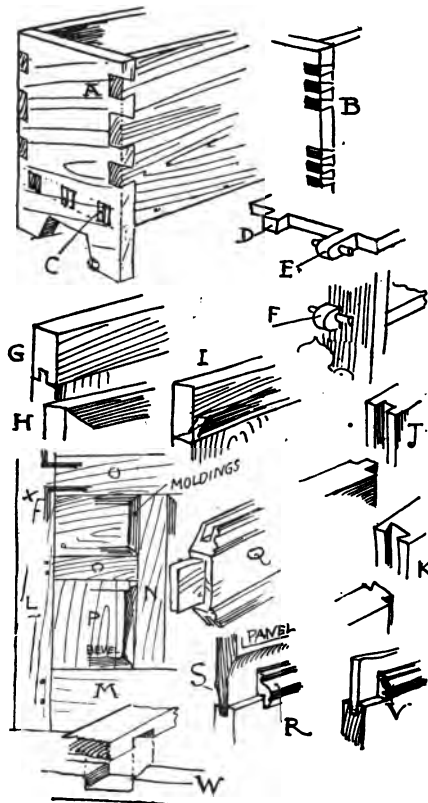


FIG. 174.—Construction of wood-work. A and B dovetail joints; C, tenon wedged in mortice; D, tenon for wedging; E and F, tenons pinned; G, clamp; H and I, secret clamps; J, groove or channel; K, dovetailed groove; L M N O P, framed panelling, with mortice and tenon joints. The tenons do not pass through, but are pegged or glued. L, stile; M, foot-rail; N, munter; O, rail; P, panel; Q, rail, with shouldered tenon and mouldings run on; R, bolection moulding; S, panel bevelled to enter groove; V, applied moulding (to be avoided); W, half-lap joint.

in frame-work, tenoned together. In “the trade” many dodges are resorted to to save labour and

## DESIGN

material. The chief of these are secret screwing and a confidence in glue. Of all these the designer should steer clear.

Several examples of joints are given in the illustrations. The sizes given above are for oak, which imposes more limits than most woods.

As to carving it should be deft and simple (Fig. 175), used more to gain relative dark and light masses than as an indulgence in sculpture. The designer should try to make patterns which can be cut with deft strokes of the gouges and chisels, with all the edges of the cuts left. At the same time it must not be forgotten that all the strokes must contribute to *identity* when possible, and to growth and the general rhythm. By advocating obvious deft strokes, I do not wish to excuse the coarse hacking so frequently seen in what is called "old oak," usually too black for any period of time to have produced.

In metal-work we have the simple process of hammering or raising. By this means the forms of bowls and cups are raised from the flat sheet without any joining. Sometimes cone-like forms are made by bending a piece of metal round tube-wise, and then modifying the form by hammering. In the trade all these forms are got by spinning or stamping, two methods which, while valuable when objects of no artistic pretensions are required, ruin art altogether. They lead to what *can* be spun or stamped being introduced into the design for cheapness' sake. All

## TECHNICAL EXAMPLES



FIG. 175.—Carving, Flemish, 16th century. The forms (as of leaves) are largely governed by the facilities of the carver's craft.

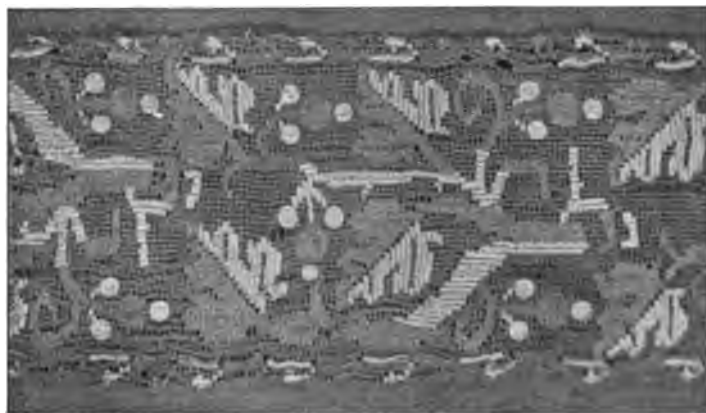


FIG. 176.—Embroidery on net, Italian. Example of acquiescence in the technical conditions. The berries are, however, quite round.



## DESIGN

individuality, therefore, must go, and it is not the imagination of the artist we buy but the skill of the machinist, which is far short of the demands of the eye.

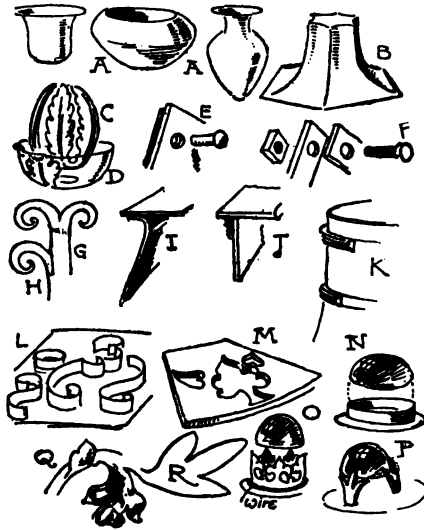


FIG. 177.—Technicalities of metal-work. A, A, forms raised from the flat by hammering; B, built form; C—D, hammered ornament; E, rivet; F, nut and bolt; G, flat rod split at end; H, curl brazed on; I, soldered or brazed joint; J, soldered joint with a wire moulding in the angle; K, mouldings of wire soldered on; L, wires bent for *cloisonné* enamel; M, depressions chiselled out for *champ-levé* enamel; N, a simple setting for a stone; O, a setting ornamented; P, claw setting; Q, leafage hammered from the sheet R.

Sheets of metal are usually 4 by 2 feet wide, but larger sizes can be obtained. Bars or rods, round, square or oblong in section, may be had from the sizes of wire up to say 2 or 3 inches square, beyond which the student need not concern

## METAL-WORK

himself. A rod 1 inch square is very stout, but  $\frac{1}{2}$  inch square is getting small. The flat bars are very useful, and of course may be of any section.

Mouldings are beaten out of sheet or cut upon flat rod or wire. In the trade they are rolled out by machinery, as also are all kinds of decorated wires, twisted wires, and tubes of all sections with and without decorations. All these things the student may neglect, doing what he can by hammering, bending, curving and twisting his wires and rods. Tubes, round, square or polygonal, he may have sometimes to use ; but as a rule he must avoid buying parts ready-made. Casting follows the usual rules for such work. The model must *draw* out of the mould, or the mould must be in several pieces. In the waste wax process, the wax model being melted out, there is not the same limitation put upon the design.

Joints in metal-work are effected by soldering, riveting and screwing. In iron-work welding is added to these. But welding cannot be done in the other metals. There are of course limitations to the range to which soldering can be applied, but of offending in this direction the student may take the risk, because the range is very wide even then. For soldering, the area of contact should be considerable, if possible. Riveting is a good method of joining. The rivets should not be hidden, but allowed for in

## DESIGN

the design. In iron-work, bands or collars gripping the bars are very frequently used.

The simplest and often the only ornaments upon an object are mouldings, which usually accentuate the edges, and therefore the object ; they also by banding it give it a degree of stability and homogeneity it would not otherwise possess. They generally occur where the curves of the object change. This is because a change in the curve arrests the attention of the eye, and where the attention of the eye is arrested is the natural place for lines and ornaments to develop. Hence in many objects of metal and pottery there are only lines scored on the form and not projecting at all. They are nevertheless of the same order as mouldings, or rather, mouldings are merely lines drawn by means of light and shade obtained by projections.

Mouldings can be developed on the object without its form being altered, as in Fig. 21 and Fig. 39, E, and it would not be bad advice that the designer should content himself with them rather than interfere with the structural form, and then do what more decoration he wants by merely treating the spaces between them. However, in some periods, as always in some crafts, the variation of the edge has been a recognized and legitimate method of decoration. The following are instances—the lintel in Fig. 7, D ; the corbel, Fig. 10 ; Fig. 13 ;

